The Cuerdale Hoard

and related Viking-Age silver and gold from Britain and Ireland in the British Museum

James Graham-Campbell

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With contributions by
Barry Ager, Marion Archibald, Hero Granger-Taylor, Susan Kruse, John Sheehan, Egon Wamers, Leslie Webster, Martin Welch and Gareth Williams

Original drawings by Karen Hughes

British Museum Research Publication no. 185

Supported by the Marc Fitch Fund

For David M. Wilson, mentor and friend
Gratia tibi ego

Publishers
The British Museum
Great Russell Street
London WC1B 3DG

Series Managing Editor: Josephine Turquet
Editor: Carolyn Jones
Assistant layouts: Chihiro Matsuura
Publishing assistant: Sarah Wray

Distributors
The British Museum Press
38 Russell Square
London WC1B 3QQ

The Cuerdale Hoard and related Viking-Age silver and gold from Britain and Ireland in the British Museum
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Front cover: Selection from the Cuerdale hoard, Lancs

ISBN 978 086159 185 5
ISSN 1747 3640

© The Trustees of the British Museum 2011
Second printing with minor amendments 2013

Note: the British Museum Occasional Papers series is now entitled British Museum Research Publications. The OP series runs from 1 to 150, and the RP series, keeping the same ISSN and ISBN preliminary numbers, begins at number 151.

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or The David Brown Book Co. USA
Tel: (+1) 860 945 9329; Toll free 1 800 791 9354
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Printed and bound in the UK by 4edge Ltd, Hockley

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Abbreviations used in the Catalogue and Explanatory Notes

Measurements

D diameter
H height
T thickness
W width
Wt weight

Note: measurements in the catalogue are given in centimetres (cm), except where quoted from historical documents (including the British Museum Register for 1840).

Imperial measurements (and metric equivalents)

in(s) inch(es)
ft foot/feet (1ft = 12ins)
yds yards (3ft = 1yd)

1 in = 2.54cm; 1ft = 30.48cm; 1yd = 91.44m

Troy weights (and metric equivalents in grams)

gr grain
dwt pennyweight (24gr)
oz ounce (20dwts)
lb pound (12oz)

1gr = 0.0648g; 1 dwt = 1.56g; 1oz = 31.1g; 1lb = 373.24g
(1g = 0.032oz)

Avoirdupois weights (and metric equivalents in grams)

oz ounce
lb pound (16oz)

1oz = 28.35g; 1lb = 453.59g
(1g = 0.04oz)

Other abbreviations

c. *circa*
SEM Scanning electron microscope
taq *terminus ante quem*
tpq *terminus post quem*
XRF X-ray fluorescence

Abbreviations used in connection with registration nos in the British Museum

AF Franks Bequest (in MME/PE)
CM Department of Coins and Medals
MME Medieval and Modern Europe (now PE)
OA Old Acquisition (in MME/PE)
PE Department of Prehistory and Europe
PEE Prehistory and Early Europe (now PE)

Note: on its acquisition in 1840, the contents of the Cuerdale hoard were divided between the then Department of Antiquities and the Department of Coins and Medals (where the coins were mistakenly registered under the year 1838).

Abbreviations used in connection with other museums/ collections

AC Assheton Collection (on loan to the British Museum)
AM Ashmolean Museum, Oxford (Evans Collection)
B Historisk Museum, Bergen
C Nationalmuseet, Copenhagen
CAA University Museum of Archaeology and Anthropology, Cambridge
CM Grosvenor Museum, Chester
CalM Carlisle Museum
CamM Campbeltown Museum
CanM Canterbury Museum
ChM Chichester Museum
ColM Colchester Museum
DM Derby Museum
FM Fitzwilliam Museum, Cambridge
HM Hastings Museum
HWM Hereford and Worcester Museum
LM National Museums Liverpool (Liverpool World Museum: Nelson Collection)
LUHM Lunds universitets historiska museum
MM Manx Museum, Douglas
MoL Museum of London
NCM Norwich Castle Museum
NMI National Museum of Ireland, Dublin
NMS National Museums of Scotland (Museum of Scotland), Edinburgh
PP Private possession
RM Rotherham Museum
SAL Society of Antiquaries of London
UM Ulster Museum (National Museums and Galleries of Northern Ireland)
VA Victoria and Albert Museum, London
YM Yorkshire Museum, York

Explanatory Notes

Throughout this volume, the hoards and single-finds that constitute the main catalogue are numbered in bold (**1–41**). In the case of hoards, the individual items are identified after a colon; e.g. **1:120** is a 'silver oblong ingot' (**120**) in the Cuerdale hoard (**1**). For further details, see the 'Introduction' to the 'Catalogue' itself (pp. 161–3).

There are four series of illustrations, with the 'Plates' section (**Pls 1–80**) consisting exclusively of the catalogued material, as is also the case with the series of '**Cat. Figs**' which are integrated into the catalogue entries. The illustrations accompanying the main text are numbered by chapter (e.g. **Figs 1.1–19, 2.1–5**, etc). Finally, Appendices 1 and 2 have their own series of '**App. Figs**'. In addition, there are some **Tables**, which are numbered in the same manner.

Given that the majority of the catalogued material was discovered during the mid-nineteenth century (cf. **Table 9.1**), the historic counties of England and Scotland have been retained in the text for their find-places, being those in use until the local government reforms of the 1960s and 1970s, although they have been updated in the catalogue entries (and in the case of recent finds).

Preface

The Cuerdale Hoard – the largest known silver hoard from the western Viking world – was discovered in 1840 by workmen who were engaged in repairing a bank of the River Ribble, near Preston, in Lancashire. Though it had been discussed to greater or lesser extent in many publications since, and the coins had been the subject of separate studies, no attempt had been made to untangle its complex collecting history, or to provide a definitive account of the find, including a full catalogue, until the Museum invited James Graham-Campbell, as the leading authority on Insular Viking hoards, to undertake such a study on its behalf. The publication of this volume, *The Cuerdale Hoard and related Viking-Age silver and gold from Britain and Ireland in the British Museum*, by Professor Graham-Campbell, with numerous contributions from fellow scholars, from the British Museum and from both home and abroad, is at last published in celebration of the 170th-anniversary of the discovery of the hoard itself.

This publication also represents, in a sense, the continuation of an earlier tradition. When *Anglo-Saxon Ornamental Metalwork, 700–1100, in the British Museum, Catalogue of the Antiquities of the Later Saxon period*, vol. 1, by David M. Wilson, was published in 1964, it was announced in its Preface by Rupert Bruce-Mitford, the then Keeper of British and Medieval Antiquities, that 'the present volume is the first in a series of six or seven planned to cover the antiquities of the later Saxon period, including the Celtic antiquities'. In fact, this perhaps over-ambitious idea of an entire series devoted to the non-numismatic collections from some 400 to 500 years of British and Irish history faded from view almost as soon as it was announced; and though some subjects were subsumed in other projects, such as Bruce-Mitford's own independently published *Corpus of Late Celtic Hanging-Bowls*, the present volume may be said to represent the only other publication which reflects the original grand design.

The British Museum acquired the greater part of the Cuerdale hoard under the now obsolete law of Treasure Trove as a donation by HM Queen Victoria, through the Duchy of Lancaster, which was the holder of an ancient Treasure Trove franchise. In accordance with mid-nineteenth-century practice, however, the Duchy dispersed part of this great treasure to collectors across Britain and Europe, some with little, if any, record. A major part of the research that lies behind this volume has thus been Graham-Campbell's reconstruction, in so far as is now possible, of the original extent of the contents of the Cuerdale hoard, which here amounts to 1,153 individual catalogue entries for its bullion contents. In addition, since it is necessary to put the hoard into the wider context of precious metal hoards, bullion, and the control of wealth in the Viking period, it was clear from the outset that it would be necessary to include the Museum's other important holdings of Viking gold and silver from Britain and Ireland in this study, as well as providing selected handlists of other directly relevant metalwork. The terminus for inclusion of this material is 2000. The resulting volume is a work of meticulous and dedicated scholarship which reflects the author's lifetime expertise in the field. It provides an authoritative overview of not only its immediate subject, but of the wider, ever-mobile, world of Viking trade, raiding, and manufacture of precious metalwork across the whole of Europe to Russia and Arabia.

The British Museum is greatly in Professor Graham-Campbell's debt for his whole-hearted commitment to this long-running project, despite all the intermittent disruptions and set-backs that usually attend such a major undertaking. The Museum would like to express its thanks to him, to his co-authors, and to others who have contributed in many different ways both from within the Museum and outside; the appearance of this volume is a most significant achievement.

Leslie Webster
Former Keeper, Department of Prehistory and Europe
The British Museum

Foreword and Acknowledgements

For the last thirty years, a catalogue of the Viking silver hoard found at Cuerdale, in Lancashire (in 1840), has appeared on my list of forthcoming publications, given that the research project from which this publication arises commenced in the mid-1970s, although my first encounter with the hoard had taken place sometime earlier, during postgraduate research on Viking-age brooches supervised by David Wilson, at University College London. My introduction to the Cuerdale hoard at the British Museum, in what was then the Department of Medieval and Later Antiquities, was guided by Leslie Webster who has since remained engaged in my research at the British Museum – even to the extent of contributing the Preface to this volume. There need, therefore, be no surprise that the greatest debt accumulated by me during these decades is to these two scholars, for their academic support and expertise, together with advice on numerous drafts – and, not least, for their continuous friendship, hospitality and general encouragement.

My initial examination of the non-numismatic contents of the Cuerdale hoard was accompanied by a preliminary survey of the Duchy of Lancaster's archive concerning the events surrounding the hoard's discovery, the subsequent Treasure Trove 'Inquisition', and the distribution of its contents. Also, through the kindness of Lord Assheton, the late Ben Edwards and myself undertook (in 1972) the first modern appraisal of the Assheton collection of Cuerdale silver (other than the coins), when it was still kept at Downham House in the rosewood cabinet commissioned by the Duchy for presentation (with its contents) to William Assheton, the owner of the land on which the hoard was discovered. It is a matter of great sadness that Ben has not lived to see the completion of this project of which he was a great supporter, with a fervent desire to see its results in print, not least for the medieval archaeology of Lancashire.

During the 1970s, my research came increasingly to focus on cataloguing the non-numismatic contents of the Cuerdale hoard; however, work on the international exhibition *The Vikings*, during David Wilson's directorship of the British Museum, brought this work to a halt. Indeed, the Cuerdale hoard was one of its principal exhibits in London, New York and Minneapolis, during 1980–81 (Graham-Campbell 1980, no. 301). When work on the hoard re-commenced, it was together with the late Christopher Blunt who had agreed to contribute a chapter to the volume on the Cuerdale coins. This necessitated a more thorough examination of the Duchy archive (in 1985), with the assistance of the then Clerk of the Council, Sir Robert Somerville. I am particularly grateful to the Chancellor and Council of the Duchy of Lancaster for having granted me unrestricted access to their records, together with permission to quote extensively from them here.

Our work on the antiquarian sources relating to the early history of the hoard took a major step forward with the discovery (in the USA) by Manville and Robertson, during the research for their invaluable publication, *British Numismatic Auction Catalogues* (1986), of some unique sale-catalogues of the mid-nineteenth-century Preston auctioneer, John Burton. We studied copies during a couple of congenial week-ends at Christopher's home in Ramsbury – week-ends of the scholarly and entertaining kind described by Ian Stewart (Lord Stewartby) in Blunt's obituary for the British Academy (1991). We both presented papers on our researches at the 'Tenth Oxford Symposium on Coinage and Monetary History' (1985). My 'archaeological reflections' on this occasion have survived more or less unchanged (Graham-Campbell 1987a), even if requiring modification in detail as a result of subsequent work (most notably that by John Sheehan on the Irish material). Christopher's paper went unpublished, regarded by him as being just a summary of 'work in progress'. In the event, he was unable to achieve little more with it before his death in 1987; however, his Oxford paper and related notes have been put to the best possible use by Gareth Williams in his own account and discussion of 'The Cuerdale coins' (Chapter 3). This work was kindly taken over by Gareth from Marion Archibald, when she realised that her other commitments were going to make it impossible for her to find time to undertake the task that she had so willingly accepted after Christopher's death. This volume has, however, greatly benefited from the inclusion (in Chapter 3) of the results of her own Cuerdale research – on the 'testing' of the coins.

The next significant advance in Cuerdale studies was the outcome of Susan Kruse's PhD research, at UCL, on 'Viking-age silver ingots from England and Wales and their economic implications', which was completed in 1988; her results form the basis of Chapter 4. After which (in 1990), the 150th-anniversary of the discovery of the Cuerdale hoard was celebrated in Liverpool, by the (then) National Museums and Galleries on Merseyside, with an international exhibition entitled 'A Silver Saga', with the treasure forming its centrepiece, reconstructed as fully as possible (Philpott 1990). The associated conference resulted in the publication of a collection of papers on the theme of the Cuerdale hoard 'in its context' (Graham-Campbell (ed.) 1992).

A 'Research Leave' grant was awarded by AHRB (for 2000–2001), to enable completion of the project – and their funding is hereby gratefully acknowledged. This period was, however, interrupted by illness – and a further decade was to prove necessary for this volume finally to reach completion.

After so many years, it would be an impossible task to try and name all those who assisted me with this project, at one time or another – in numerous museums and libraries in several countries – for so many generous individuals (not all, alas, still alive) have provided me with extensive assistance and much generous hospitality during this long period.

Specific academic debts are individually acknowledged in the notes to the text, but it is a particular pleasure to thank here three people in England who have assisted me in my research without appearing as contributors to this volume: the numismatists Hugh Pagan and the late Mark Blackburn, whose great learning – and generosity with his knowledge of the material – is sadly missed. Sonja Marzinzik, who succeeded to the curatorship of the Cuerdale hoard in the Department of Prehistory and Europe at the British Museum, was unfailingly helpful with my last minute queries.

Those who have made direct contributions to this volume include some scholars already mentioned: Gareth Williams and Marion Archibald (Chapter 3), Susan Kruse (in Chapter 4), and John Sheehan (in Chapter 5). Marion's support for the project over the years included important numismatic contributions to both the 1980 and 1990 exhibitions (Archibald 1980; 1992). The other specialist contributors, who have also most generously contributed their time and expertise, are Egon Wamers (for Chapter 7), Hero Granger-Taylor (in Chapter 4), Barry Ager (in Chapter 6), and the late Martin Welch (in Appendix 2.6). At the British Museum, I am additionally grateful to Karen Hughes for the care with which she undertook the original drawings, to Nigel Meeks for his SEM photographs, and to Craig Williams for his completion of the Cuerdale location-map, originated by David Goodyear.

Inevitably, changing technology has overtaken the production of this volume and my particular thanks are due to Martin Comey, whose ability to scan and manipulate illustrations, and to organise my files, has ultimately made this publication possible, together with the skills of both Carolyn Jones, as copy-editor, and Josephine Turquet, in its production for the British Museum Research Publications series. In addition, I am grateful to Jane Kershaw for her assistance with proofreading and to Anna Bennett for the index .

It is, finally, my pleasure to acknowledge a generous grant from the Marc Fitch Fund towards the cost of the publication of this volume.

James Graham-Campbell
London and Chauzanaud, March/September 2011

CHAPTER 1

The Collection of Viking-Age Gold and Silver from Britain and Ireland in the British Museum

The scope of the catalogue

This catalogue describes and discusses all the objects of Viking-age gold and silver in the British Museum, other than coins (with the exception of those in the Cuerdale and Goldsborough hoards, which are reviewed by Gareth Williams), that were made either in Scandinavia or in a Scandinavian tradition and which have been found in Britain and Ireland. It also includes those objects of precious metal that are of Anglo-Saxon, Insular and continental manufacture which form part of hoards of 'Viking character' (as defined below). In addition, the opportunity has been taken to include all the dispersed non-numismatic material now known from the great hoard found at Cuerdale in Lancashire, in 1840 (**Fig. 1.1**), so that its contents may, for the first time, be reconstructed as fully as possible.

Figure 1.1 Selection from the Viking silver hoard found at Cuerdale, Lancs

The following items have also been catalogued, for completeness: a gold foil from the Halton Moor (1815) hoard, Lancs, now in the National Museum, Copenhagen; a silver pendant from the Goldsborough (1859) hoard, North Yorks, in the ownership of the church there, together with two lost ingots (known from drawings); that part of the Ballaquayle (1895) hoard, from the Isle of Man, which was allocated to the Manx Museum, Douglas; and a silver arm-ring from near Athlone, Co. Westmeath, in the National Museum of Ireland, Dublin, which was probably found together with two similar Irish arm-rings acquired by the British Museum in 1854.

It is intended, therefore, that this catalogue should complement both that by David M. Wilson on the *Anglo-Saxon Ornamental Metalwork, 700–1100, in the British Museum* (London, 1964) and that by James Graham-Campbell on *The Viking-Age Gold and Silver of Scotland (AD 850–1100)* (Edinburgh, 1995), in both of which a small number of the objects included below may also be found.

For the purposes of this catalogue, the 'Viking Age' is defined as the ninth to eleventh centuries AD, except that all the Museum's medieval finger-rings made from twisted rods of gold or silver have been included, even if of twelfth-century date (corresponding to those of the 'Late Norse' period in Scotland), given that they are of 'Viking character', by which is meant 'manufactured in a Scandinavian tradition' (whether or not imported from Scandinavia); indeed, if found singly, they are not in any case readily distinguishable from those of known Viking-age date (see pp. 107–8). Hoards of 'Viking character' comprise both those that consist exclusively of non-numismatic material (or bullion), in the form of ingots, ornaments and/or hack-silver, otherwise known as 'coinless' hoards, and those that contain ornaments, etc., of Viking character, together with coins, such being known here as 'mixed' hoards, to be contrasted with those that consist exclusively of coins (with or without a container).[1]

All judgements concerning the identification of objects are discussed in the introductory chapters. The catalogue proper is intended to be completely factual; the only other judgements normally made in this section (other than the extent of the secondary 'nicking' of an object, which can sometimes be no more than an estimate) concern matters of doubtful or disputed provenance. The find-places are indexed to enable location of the discussion or mention of the object or hoard in the introductory chapters; they are identified in bold throughout (as nos **1–41**). The catalogue is divided into two parts: Part I for mixed and coinless hoards (**1–16**, with each item being separately numbered, as **1:1**, etc.); and the second for single-finds (**17–41**). Both are arranged alphabetically by country (England, Ireland, Isle of Man and Scotland; there being no Viking-age gold or silver from Wales in the British Museum). In Part II, the single-finds are further divided up by artefact type, separated into gold and silver. Unprovenanced objects are placed at the end of each relevant section, arranged in their order of accession. The catalogue is complete up to the end of the year 2000.

Almost all the objects listed in the catalogue are illustrated by photographs (identified here as Plates = **Pls**), with line drawings (identified as Catalogue Figures = **Cat. Figs**), used to amplify and illustrate certain points not immediately obvious from the photographs. All photographs and drawings in the main text are separately identified as Figures, by Chapter (as **Fig. 1.1**, etc.).

The history of the collection

The collection of Sir Hans Sloane, which comprised the nucleus around which the British Museum has been formed, contained no objects of Viking-age gold and silver from Britain and Ireland when it passed into the hands of the nation in 1753,[2] and nearly a century was to pass before the British Museum was officially to collect British antiquities, although coins were a different matter.[3] So, it was not until 1807 that the Museum acquired its first such object when Lord Frederick Campbell donated a silver ingot from a mixed hoard which had been found in 1780 on the island of Tiree, in western Scotland (**15**). This was, however, only so that it might join the coins from this hoard (deposited *c.* 970), which had previously been donated to the British Museum in 1789, 'by his Grace the Duke of Argyle by the hands of the Rt Honble Ld Frederick Campbell' (as described in Graham-Campbell 1995, 97, no. 4). Then, when a late Viking-age hoard was discovered in 1815 at Halton Moor, Lancs (deposited *c.* 1025), consisting of a silver-gilt Carolingian cup containing 860 coins of Cnut, a silver neck-ring and six impressed gold foils, it was only eighty-five of the coins that were 'taken by the Trustees of the British Museum as also one of the gold pieces' (Whitaker 1823, 242), presumably because of its bracteate-like character (**4:3**). The Halton Moor cup and neck-ring remained in private possession and were not to be acquired by the Museum until 1897, as part of the Franks bequest (**4:1–2**), although the cup had previously been displayed, on loan, as part of Augustus Wollaston Franks' personal collection of drinking vessels. The Museum's lack of such Viking-age silver was, however, to change dramatically in 1841.

In the meantime, early in 1838, as described by Wilson (2002, 104):

> The Trustees tackled one of the most important problems of coin collecting – Treasure Trove. This was one of the regalities of the Crown administered in most of England by the Treasury, but where applicable by the chancellors of the duchies of Cornwall and Lancaster. Under this ancient law the Crown claimed all precious metal found in the ground having been deposited in the ground *animus revertendi* (with the intention of retrieval).

The Trustees thus directed the Secretary of the Museum:[4]

> …to draw up a letter to the Lords of the Treasury, to the Chancellor of the Duchy of Lancaster and the Lord Warden of the Duchy of Cornwall, expressing the anxious wish of the Trustees to be permitted, upon all occasions of Treasure Trove, the selection of such Coins and other Antiquities as are desirable for the National Museum.

According to Wilson, however (*ibid.*, 104):

> The Duchy of Cornwall appears not to have replied to this appeal, while the Treasury cautiously acknowledged the Trustees' right to be consulted. The Duchy of Lancaster enthusiastically stated that it would certainly pass all such material to the Museum.

As chance would have it, the Duchy of Lancaster was soon afterwards in a position to carry out its word. For, in July 1841, the British Museum received as a donation from Queen Victoria, in her capacity as Duke of Lancaster (following the Treasure Trove inquest to be described in Chapter 2), the greater part of the non-numismatic material and a selection of

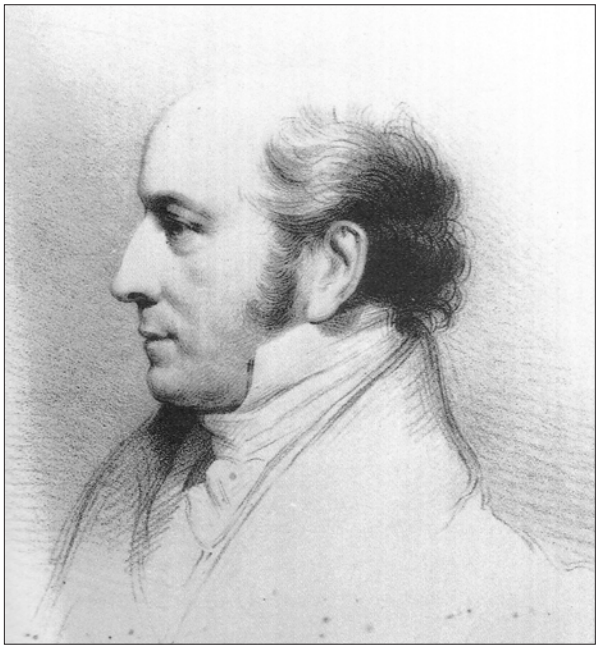


Figure 1.2 Edward Hawkins of the British Museum (in 1835)

the coins from the large mixed hoard (deposited *c.* 905–10) that had been discovered, in May 1840, at Cuerdale, Lancs **(1)**. In addition, the Museum has since acquired six Cuerdale ingots, on two separate occasions (by purchase in 1873 and by donation in 1906), as will be described below; further coin acquisitions are noted by Gareth Williams in Chapter 3.

During the mid-nineteenth century, there followed a considerable influx of both Viking-age hoards and single-finds, to an extent unequalled for some decades thereafter (see **Table 9.1**). This resulted partly from a number of further donations, but more particularly from a series of purchases that would seem to have been stimulated by the detailed study of the Cuerdale hoard undertaken by Edward Hawkins (**Fig. 1.2**), who was the then Keeper of Antiquities (a post he continued to hold until 1860, when he retired at the age of eighty).

In February 1849, a gold arm-ring recently found at Wendover Dean, Bucks (**20**), was presented to the Museum by the landowner, Robert Fox, following which three gold rings from Ireland were among fifty pieces purchased, on the initiative of Hawkins (Cherry 1997, 196, n. 6), from William Anthony in London: the so-called 'Virginia' arm-ring (**21**), from Co. Cavan, and two finger-rings, one from near Drogheda, Co. Louth (**34**), and the other from near Waterford (**35**). William Anthony was the son of the Irish collector and dealer, Redmond Anthony of Kilkenny (1768–1848), who had exhibited his personal collection 'in his premises in Piltown, which he styled "my Museum".' (Cahill 1994, 53–4). Although the greater part of this collection was auctioned at Sotheby's on 20 July 1848, 'a precious series' of his gold ornaments from Ireland was not included in the sale, but was sent instead for display at the temporary 'Museum' created, that July, for the Summer Meeting of the (Royal) Archaeological Institute held at Lincoln; these three gold rings formed part of 'this choice assemblage' which was 'subsequently … added to the collections in the British Museum' (*Lincoln Museum Catalogue*, xxxiii).

Two years later, in 1851, there were four separate acquisitions of material from England, Ireland and Scotland. At the January sale in London of the collection of the Cork antiquarian, the Rev. Dr Neligan, a small assemblage of silver bullion from Co. Cork (**9**) was purchased through the dealer, H.O. Cureton, from whom the British Museum also purchased two gold finger-rings as part of a newly-discovered mixed hoard from Soberton, Hants (**7**); both acquisitions were registered in March. The Soberton hoard attracted the attention of Hawkins not only for its 259 Anglo-Saxon and Norman pennies (deposited *c.* 1068), but also for the finger-rings (or rather 'ear-rings' as they were then supposed to be) because, as he stated, 'this discovery is very interesting as an evidence of the period to which ornaments of this kind may be assigned' (*Archaeological Journal* viii (1851), 100). In June, a silver chain was donated by Major Ker McDonald, together with a selection of coins, from a mixed hoard (deposited *c.* 1000) which had been found in about 1830 on the small island of Inch Kenneth, off Mull (**14:1**). Finally, in July, the Museum purchased two silver arm-rings, said to have been found in Scotland (**16:1** and **2**), together with other material, at the Edinburgh sale of the large collection made by Charles Kirkpatrick Sharpe, through Augustus Wollaston Franks; a third silver-arm-ring in the Museum has demonstrable associations with these two rings (Graham-Campbell and Sheehan 1995), so that all three have been catalogued together here (**16**). However, given that the Museum has no known records concerning the acquisition of the latter, it has also been listed separately (**25**).

It was in 1851 that Hawkins appointed A.W. Franks as 'an assistant in the British Museum, with special charge of the British and Medieval collections for which a new room had just been completed' (as quoted in Wilson 1984, 12).[5] There followed, during 1853–4, four further acquisitions of relevant material from both England and Ireland. In 1853, a gold finger-ring from Balmer, in Sussex (**26**), was purchased from R.T. Mantell, as part of the late Dr Gideon Mantell's collection (Franks 1854), and a silver arm-ring (**22**) was one of three unprovenanced items (MME:1853,1014.1–3) bought from a Mr Wilkin of Mullingar during a trip made by Franks to Ireland 'to fill up the numerous gaps in the Irish Series in the Museum' (Caygill 1997, 175).[6]

It is not surprising, therefore, to find that three further Irish antiquities were also registered in October, purchased from James Henry Underwood (MME:1853,1013.1–3), a well-known Dublin dealer of the period (Briggs 1979), and that there followed, in November and December, three groups of material purchased from the Dublin collector, Joseph Huband Smith (MME:1853,1117.1–15; 1853,1123.1–11; and 1853,1216.1–9), with a further group registered in March 1854 (MME:1854,0307.1–4).[7]

In 1854, the Museum purchased from its finder the contents of a mixed hoard newly discovered at Lark Hill, Worcs (deposited *c.* 1175), from which one silver finger-ring of twisted rods is included in this catalogue (**5**). Also in 1854, two unprovenanced silver arm-rings (**8:1** and **2**) were bought, together with over one hundred other items, at the sale of Thomas Crofton Croker's collection of Irish antiquities,[8] although it has subsequently been suggested that they may be identified with some found near Athlone, in Co. Westmeath, which are known to have been acquired by Croker in about 1851, including one (**8:3**) now in the National Museum of Ireland, Dublin (Graham-Campbell and Briggs 1986, 309–10, 313–14, figs 1, 2 and 6).

There was no gold or silver of Viking character from England in the great collection of London antiquities that the British Museum bought in 1856 from 'that remarkable antiquary Charles Roach Smith' (Wilson 1964, 2; 1984, 24; 2002, 132–3), although one of his notebooks, now in the Department of Prehistory and Europe, contains drawings of both some extant and some lost objects from the Cuerdale hoard (**Cat. Fig. 4** and **Pl. 10**).

In 1859, the Museum purchased most of the small, but important, mixed hoard (deposited *c.* 925) that had recently been found at Goldsborough, North Yorks (**3:1–11**), although a silver cruciform pendant (**3:12**) remains in the possession of the church (Wilson 1957), and a contemporary sketch (**Pl. 65**), preserved in the library of the Society of Antiquaries of London, demonstrates the loss of two ingots (**3:13** and **14**).

During the following decade (after the retirement of Hawkins) the Museum acquired no further gold or silver objects of Viking character. On the other hand, this was the period that saw 'the gradual emergence of the Department of British and Medieval Antiquities and Ethnography', when Franks (later Sir Wollaston Franks) became Keeper (Wilson 1964, 2; 1984, 14; 2002, 119–21; Caygill and Cherry 1997). Franks retired in 1896 and died in 1897, bequeathing many objects to the Museum, including **4, 27, 31** and **36** (described below).

The interlude in the acquisition of relevant material came to an end in 1870 (**Table 9.1**), with the purchase of a gold finger-ring found at West Bergholt, Essex (**32**), from the Rev. J.H. Pollexfen, along with 820 other objects from his collection. Later that same year, the British Museum acquired, as Treasure Trove, a silver arm-ring and what was then considered to be a single silver neck-ring, found together at Ballacamaish on the Isle of Man (**12**), although the latter has since been demonstrated to comprise the remains of two such rings (Graham-Campbell 1983a, 77–8).

At the beginning of 1871, a gold finger-ring of Viking character, found at Harwich in Essex (**28**), was among eight rings bought from P. Albert of London. Next, in April, a silver arm-ring 'from the North of Ireland' (**23**) was purchased from Sir Thomas Tobin, of Ballincollig, Co. Cork. At the same time the British Museum also acquired from the Tobin collection some Irish Bronze-age gold rings, as well as a single gold ingot found in Co. Cork; the latter is catalogued here as a Viking-age object (**17**), for reasons discussed below (**p. 84**). At the sale of the Purnell collection, in May 1872, the Museum purchased two silver pseudo-penannular brooches of Irish workmanship (**10**), together with an assortment of other antiquities, including both Roman and Anglo-Saxon material; these brooches were by then without provenance, but were subsequently identified as having been found together, in 1836, on Scattery Island (Inis Cáthaig), Co. Clare (Graham-Campbell 1972, 117). Sheehan (2010b) has argued that this island, in the River Shannon (with its important ecclesiastical centre), was involved in 'a sustained relationship' with the Scandinavian kingdom of Limerick, and that these two small brooches, both lacking pins, together constitute a coinless bullion hoard of Hiberno-Scandinavian type.

In 1873, one of the so-called 'mark' ingots from the Cuerdale hoard (**1:7**) was purchased from the dealers Rollin & Feuardent. The opportunity was probably taken because this example differs in detail from both of those originally donated to the British Museum, as part of the Duchy's allocation (**1:1** and **10**).

In 1895, the British Museum acquired as Treasure Trove a significant part of the important gold and silver 'Douglas' hoard from the Isle of Man, found at Ballaquayle in June 1894 (**13:1–8**), but the rest of this mixed hoard (deposited *c.* 970) was, however, allocated to the newly-founded Manx Museum, Douglas (**13:9–21**). Indeed, its discovery provided the impetus for the actual creation of a national museum in the Island, in the form of temporary displays in Castle Rushen. The body of Museum Trustees, established in 1886 by Act of Tynwald, had been quick to issue a unanimous resolution, in 1894, strongly deprecating 'the removal of the recent Treasure Trove in Douglas from the Island' (as quoted by A.M. Cubbon, in Harrison (ed.) 1986, 50). Its partial return was therefore an important victory for them, and the Manx Museum has since benefited from all Treasure Trove discovered in the Island, although no significant finds falling into this category did in fact come to light until the 1970s (*ibid.*, 50–1, with figs; Cubbon 2000).

The Museum's final acquisition of gold or silver of Viking character from Ireland was made a couple of years later, when three silver arm-rings were purchased, in 1897, from Rollin & Feuardent, one seemingly a single-find (**24**), whereas the other two apparently derive from an otherwise lost hoard (**11**). These had all formed part of the collection of Lord Hastings (Jacob Astley, 16th Baron Hastings), who would appear to have purchased them on the same occasion, and from the same (unknown) source, given the identical nature of the inscribed cards on which they were mounted when acquired by the Museum. Nothing more is known concerning their pedigree, however, given that Hastings died in 1859, after which most of his collection seems to have been disposed of anonymously, including a large sale at Sotheby's in November 1880 (Manville and Robertson 1986, 146, no. 12, and 377).

The Franks bequest of 1897 added three gold finger-rings to the collection, as well as the Carolingian cup and Scandinavian neck-ring from the Halton Moor hoard, Lancs (**4:1–2**), joining the impressed gold foil (**4:3**) acquired from this find in 1815 (as noted above). One of Franks' finger-rings, from Tundergarth in Dumfriesshire (**36**), represents the last relevant find from Scotland to have been acquired by the British Museum. The other two rings have English provenances: one being from near Lewes, in Sussex (**27**), and the other from near Thaxted, in Essex (**31**).

It was, therefore, during the nineteenth century that the British Museum assembled the greater part of its collection of gold and silver of Viking character, even allowing for the bulk of the Cuerdale hoard, for the twentieth century was to see far fewer additions (see **Table. 9.1**), including only one silver hoard: that consisting exclusively of silver brooches found near Penrith, in Cumberland (modern Cumbria) (**2**), which were acquired on three separate occasions (in 1904, 1909 and 1991).

The first recorded discovery of one of the seven (or possibly eight) penannular brooches in question, which together most probably constitute what has become known as the Flusco Pike (no. 1) hoard (Edwards 1992, 49; 1998, 33–6), consists of a large silver 'thistle-brooch' found by a boy harrowing a field, in 1785, on what was then known as Fluskew Common, near

Newbiggin, in the vicinity of Penrith (**2:1**). This remained in private hands (including a period in the Leverian Museum in London) until sold at auction in 1905, to be purchased subsequently by the British Museum in 1909, from Rollin & Feuardent (**38**). A second silver 'thistle-brooch', similar in size and general decorative scheme to the earlier (1785) brooch, was found 'in a field near Penrith' in 1830 (**2:2**); this likewise remained in private hands until it was bequeathed to the British Museum in 1904, by William Forster of Carlisle (**37**). Finally, as a result of metal-detecting in the same 'Silver Field' as the (1785) brooch had been found, the plough-damaged remains of five (or six?) more silver brooches were discovered, in 1989 (**2:3–12**). Although it cannot be proved that the two earlier brooches derived from the Flusco Pike (1989) hoard, for which reason they have also been listed separately (as **37** and **38**), it seems reasonable to suppose that they had originally been deposited together. A further hoard, consisting of both coins and hack-silver (deposited *c.* 925), and now known as Flusco Pike (no. 2), was found in the vicinity during a metal-detecting survey in 2005 and has been acquired by the British Museum (2009,8027.1–21; see below, pp. 113 and 233).

The opening decade of the twentieth century saw two further acquisitions of relevant material. The first was a gold finger-ring from Oxford (**29**), which was privately purchased in 1905, and the second, consisting of a parcel of five ingots from the Cuerdale hoard (**1:90**, **246–8** and **328; Pl. 7**), formed part of a large gift from Dr F. Parkes Weber to the Department of Coins and Medals.[9] Two further gold finger-rings from England were added to the collection during the next two decades: a ring from Saddleworth, in the West Riding of Yorkshire (**30**), was donated to the Museum in 1915; and a ring from Weston Turville, Bucks (**33**), was privately purchased in 1922.

There then followed an interlude of nearly sixty years during which the British Museum received no donations and made no purchases of any gold or silver artefacts of Viking character, although it would appear that Thomas Kendrick, as Keeper of the (then) Department of British and Medieval Antiquities, had contemplated bidding for at least some of the Cuerdale material in the Grantley (1942) sale, only to decide against for financial reasons (see p. 174). This hiatus is to be explained, in the main, by the allocation of the relevant mixed and coinless hoards found in Britain during this period to the appropriate national and regional museums. On the other hand, only one such find was made in England during the mid-twentieth century: the mixed hoard discovered in 1950 on the Castle Esplanade, Chester (**Fig. 1.12**), which was acquired by the Grosvenor Museum, Chester (Webster 1953).

In 1979, the British Museum purchased at auction a gold arm-ring found the previous year on the seashore between Goodrington and Brixham, Devon (**19**), but the 1980s saw no relevant additions to the collection, other than a single coin pendant (**41**) purchased from its finder in 1987, who had metal-detected it at Mildenhall, Suffolk. Indeed, it was the increase in activity by metal-detectorists during the 1990s that was to be responsible for several of the most recent acquisitions by the Museum of silver objects of Viking character found in England, as also of both gold and silver artefacts by other museums in various parts of the country.

In 1990, the British Museum purchased, at auction, a silver Thor's hammer pendant which had reputedly been found near Carlisle, but this has since been demonstrated to be a fake (see Appendix 1). Two further purchases made in 1990 were both from the heirs of earlier finders, each made under very different circumstances: an unusual gold 'assemblage' found in 1881 in the garden of Shotton Hall, Co. Durham (**6**); and a gold arm-ring 'fished up in a net by the vendor's father', in the 1950s, from the English Channel off the coast of Eastbourne, Sussex (**18**). In 1991, the coinless hoard of silver brooches from Flusco Pike, Cumberland (**2:3–12**), mentioned above as having been discovered in 1989 – in the same 'Silver Field' as one of the two large 'thistle-brooches' (**2:1**) already in the Museum – was acquired from the finders, having been declared Treasure Trove.

The three artefacts that conclude this catalogue are individual silver pendants, all of which were discovered as a result of metal-detecting: the silver-gilt coin pendant of Sven Estridsen, King of Denmark (1047–75), found at Mildenhall, Suffolk (**41**), mentioned above as having been purchased in 1987; a silver-gilt pendant in the form of a Borre-style animal, from Little Snoring, Norfolk (**40**); and a fragment of a silver Thor's hammer from Leconfield, East Yorks (**39**). The latter two were acquired in 1999 and 2000 respectively, both through the new Treasure process, following the Treasure Act 1996 which replaced the common law of Treasure Trove in England, Wales and Northern Ireland (Hobbs 2003, 19–21).

An evaluation

The Cuerdale hoard (**1**) is uniquely important amongst the British Museum's collection of Viking-age gold and silver, not only because of its great size (weighing *c.* 42.6kg; see pp. 34–5) and of the complexity of its contents (including over 1,100 extant items of assorted bullion), but also because of the relative precision with which its date of deposition (*c.* 905–10) can be determined from the surviving examples of its *c.* 7,500 coins, as discussed in Chapter 3 by Gareth Williams. It thus stands pre-eminent not only amongst the Viking-age silver hoards of Britain and Ireland, but also amongst those from Scandinavia, with the exception of two contemporary hoards found only 3m apart, within the same building, at Spillings, Othem, Gotland, in 1999. These are inevitably not yet fully published, but weigh *c.* 27kg and *c.* 40kg respectively, giving a combined weight for them of *c.* 67kg, including over 14,300 (primarily Arabic) coins, of which the latest provides a *terminus post quem* (*tpq*) of 870/1 for their deposition (Korpås *et al.* 2000; Östergren 2008). However, the hundreds of 'arm-rings, bars, bracelets and finger-rings', which this combined hoard contains, would appear to lack the variety that characterises the contents of the Cuerdale hoard, whilst their deposition pre-dates the establishment of a fully-developed hack-silver economy.[10]

The Cuerdale and Spillings hoards contrast markedly in size and weight with the next largest silver hoards, from the Viking Age, on record both from Britain and Ireland and from Scandinavia, for these do not amount to more than *c.* 8kg, and their average weight is far lighter. For instance, there are only four tenth-century hoards known from Norway that contain over 1kg of silver, and of these the heaviest is the coinless hoard consisting of four gold and six silver ornaments, all complete, from Vulu, Nord-Trøndelag, which weighs 2.5kg (Grieg 1929, 254–6, no. 104). The heaviest Viking-age hoard known from

Figure 1.3 Selection from the silver hoard found at Skaill, Orkney

mainland Scandinavia is that from Äspinge, in Skåne, with a *tpq* of 1047, weighing *c.* 8.75kg; it consists of over 8,700 coins, together with only twenty-six pieces of non-numismatic silver (Hårdh 1976, 52–4, no. 71). From present-day Denmark, the two heaviest Viking-age hoards on record both weigh *c.* 6.5kg: Terslev, Sjælland, with a *tpq* of 944; and Vålse, Falster, which was deposited 'shortly after 1000' (Skovmand 1942, 111–13, no. 45, and 95–9, no. 37).[11] The heaviest hoard that was previously known from Gotland (pre-1999) was found at Burge, Lummelunda; it weighs 10.4kg (including *c.* 3,100 coins), but post-dates the Viking Age, having been deposited *c.* 1140 (Berghaus *et al*. 1969).

As far as Britain and Ireland are concerned, the largest hoard of Viking character after that from Cuerdale was found at Skaill, Orkney, in 1858 (**Fig. 1.3**); this has a minimum total weight of 8.11kg, but even so it consisted of only 115(+) items of silver bullion and 21 coins, deposited *c.* 960–80 (Graham-Campbell 1995, 34).[12] In turn, the Skaill hoard is four times heavier than the next largest hoard from Scotland, that from the island of Burray, Orkney, which weighed *c.* 2kg, comprising 140 items of bullion and about a dozen coins, deposited *c.* 997–1010 (*ibid*., 141).

The largest Viking-age hoard known from Ireland is the coinless hoard from Carrick, on the shore of Lough Ennell, Co. Westmeath, consisting of some sixty massive ingots, with an estimated weight of *c.* 31.8kg (Ryan *et al*. 1984, 335–6, 338 and 364). In both form and weight, these ingots are far larger than those normally found in Viking-age hoards of Scandinavian character from the Irish Sea region – or, indeed, from Scandinavia. The Carrick treasure:

> In consisting exclusively of these ingots, is self-evidently a hoard of native Irish wealth, even if the silver itself would have reached Irish hands as a result of Viking activity. (Graham-Campbell and Sheehan 2009, 83).

The same may be said of the next largest hoard, that from a submerged crannog called Rocky Island, on the other side of the lake from Carrick (previously known as Dysart no. 2); this consists of five massive ingots, each weighing *c.* 3.1kg (Ryan *et al*. 1984, 337–8; Kelly 1991, 87, n. 44).

The largest Viking-age coin hoard from Ireland appears to be that found at Drogheda, Co. Louth, in about June 1846, which it has been suggested was deposited *c.* 905 (Blackburn and Pagan 1986, no. 88); it seems, however, to have been rapidly disposed of. Indeed, Dr Aquilla Smith is said to have seen only four fragments: one Viking coin of York (a 'Cunnetti'), and three Arabic (Croker 1848). On reporting this discovery to the British Archaeological Association in November 1847, Crofton Croker stated that 'Mr. Sainthill, of Cork, had informed him' that the hoard was 'nearly two gallons in quantity' (Croker 1848; Thompson 1956, 50, no. 129; Hall 1974, 73). Dolley has estimated (1966, 27, note 1) that this 'should amount to something like 5,000 coins, and this figure would be increased

Figure 1.4 Gold arm-ring (or 'ribbon-bracelet'), from the destroyed hoard found on Hare Island, Co. Westmeath

very substantially if there were any significant admixture of the much lighter Western penny' in with the Arabic coins (with their larger flans). Dolley found this claim 'very difficult to swallow', although he did not dismiss it out of hand (Dolley 1966, 27). Alternatively, given that the deposition of the Drogheda hoard appears to have been more or less contemporary with that of Cuerdale, with its *c.* 7,500 coins, its reported size could well be taken at face value as a further measure of the wealth accumulated by the Irish Sea Vikings around the beginning of the tenth century.

What would appear to have been the two largest hoards of Viking character from Ireland are both lost, although that found in 1802 on Hare Island in Lough Ree, Co. Westmeath, consisting of ten gold arm-rings (**Fig. 1.4**), with a total weight of *c.* 5kg, is by far the largest such gold hoard known from the Viking Age (Graham-Campbell 1974; 1976b, 50). What is possibly Ireland's largest hack-silver hoard was found in 1851 at Derrynahinch, Co. Kilkenny; this was said to have 'consisted of about a quart full of rings and pieces of silver' (Graham-Campbell 1976b, 50 and 68, n. 3). The (surviving) Irish hoard nearest in character to that from Cuerdale is Dysart (no. 4), deposited *c.* 910 (Blackburn and Pagan 1986, no. 93; Blackburn 2007b, no. 22);[13] however, this weighs only *c.* 850g, with 114 pieces of bullion and 45 complete and fragmentary coins (Ryan *et al.* 1984, 339–56). A further Irish hoard with 'Cuerdale characteristics', although coinless, is that from Ballywillan, a crannog in Lough Kinale, Co. Longford, consisting of twenty-eight ingots (whole and fragmentary) and ten other pieces of hack-silver, including brooch fragments (Sheehan 1998a, 200; Graham-Campbell and Sheehan 2009, 85, fig. 6).

The next largest Viking-age hoard to Cuerdale known from England is not, however, in any way comparable to it, being from the south-east and dating to the period of the Norman Conquest. This is the London (Walbrook) hoard found in 1872, which was deposited *c.* 1066/74 (to be discussed further below, p. 13). The 'Annotated Catalogue of the Guildhall Museum' (Museum of London MS) records that this consisted of:

> A coarse earthen urn with a pair of gold mounted Saxon spurs [lost], fragments of a silver ferrule of a walking-staff engraved with runic ornament [**Fig. 1.13**], and about 17 lbs of Saxon coins.

This weight of eleventh-century coins (*c.* 7.8kg) would have been the equivalent to some 5,000 in number.

In addition to its great size and complexity, the Cuerdale hoard is of exceptional importance for its relatively early date of deposition (*c.* 905–10), given that there are rather few coin-dated hoards containing ornaments of Viking character known from the ninth century (cf. Graham-Campbell 2006, 74–6). The small number of the latter from Britain will be considered in the following sections, which comprise the evaluation of the Museum's collection of Viking-age gold and silver on a country-by-country basis (**Fig. 1.5**), with the emphasis being placed on its greater quantity of material from England.

England

The British Museum contains ornaments, ingots and hack-silver from eight silver and gold hoards of Viking character found in England, of which six are mixed (with coins) and two are coinless (one each of gold and silver). There are also fourteen single-finds of gold and silver ornaments (rings and pendants), excluding the two old finds of 'thistle-brooches' from Cumbria (**37** and **38**) that are attributed here to the Flusco Pike (no. 1) coinless hoard (**2:1** and **2**).

Five of the nine mixed hoards from England which are coin-dated to the second half of the ninth century, as listed in Handlist 1, do not in fact contain objects of Viking character

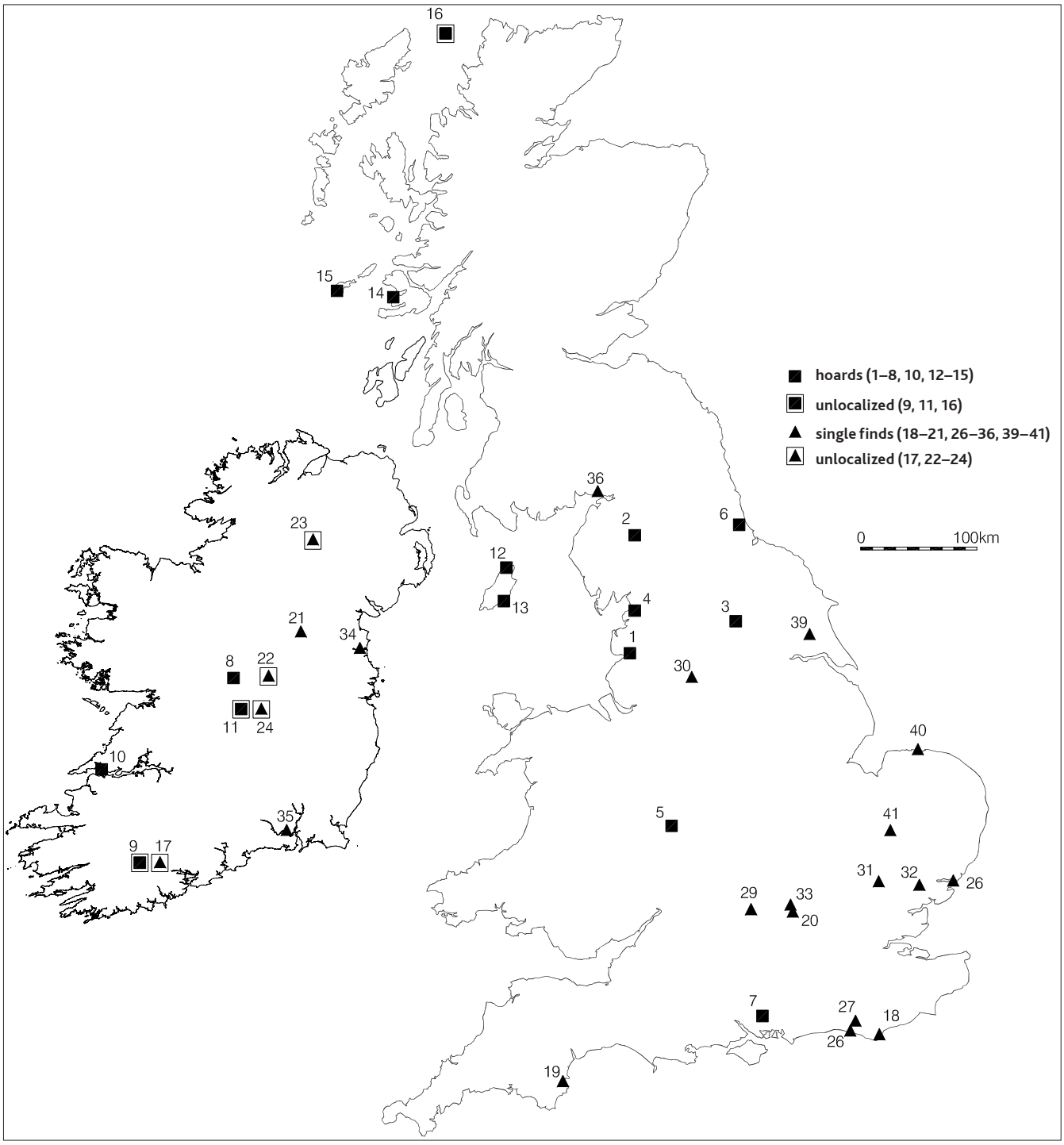


Figure 1.5 Distribution map of the Viking-age hoards (**1–16**) and single-finds of silver and gold (**17–41**; except **25** and **37–8**), in the British Museum

and, given that they are all in the Museum, their omission from this catalogue is considered below, under 'Exclusions' (pp. 15–18). In addition, the one hoard from Scotland on this list, that from Talnotry, Kircudbrightshire, is best interpreted as having been deposited (*c.* 875?) by a Northumbrian metalworker (Graham-Campbell 2001a).

The mixed hoard, and associated material, from the North Yorks 'productive site', deposited *c.* 875, was (in 2008) in the process of being acquired by the Museum, but it had anyway been discovered too late (2003) for inclusion in this catalogue, although its contents are described briefly below by Gareth Williams (p. 68).[14] There is also an assemblage of hack-silver and gold from across this site,[15] similar – if on a smaller scale – to that from Torksey, Lincs (see below).

Two of the other three mixed hoards may both be considered to be of national significance, although neither of them is in the British Museum, because they can be associated with the movements of the Danish 'Great Army' during the 870s, as are the recently metal-detected finds of coins, and both hack-silver and gold, from its 872/3 winter-base at Torksey, Lincs (Graham-Campbell 2002a, 55–6; Blackburn 2002; 2004; 2009, 48–50; 2011).[16] One of these hoards was excavated (in 1985) from a male grave at Repton, Derbys (Grave 529), which was the army's winter-base in 873/4, but this consists only of a single gold finger-ring, with stamped decoration (**Fig. 5.16**), and five coins with a deposition date of *c.* 874 (Biddle and Kjølbye-Biddle 1986, 24–6; 2001, 65, fig. 4,16). The deposition of the other hoard, found at Croydon,

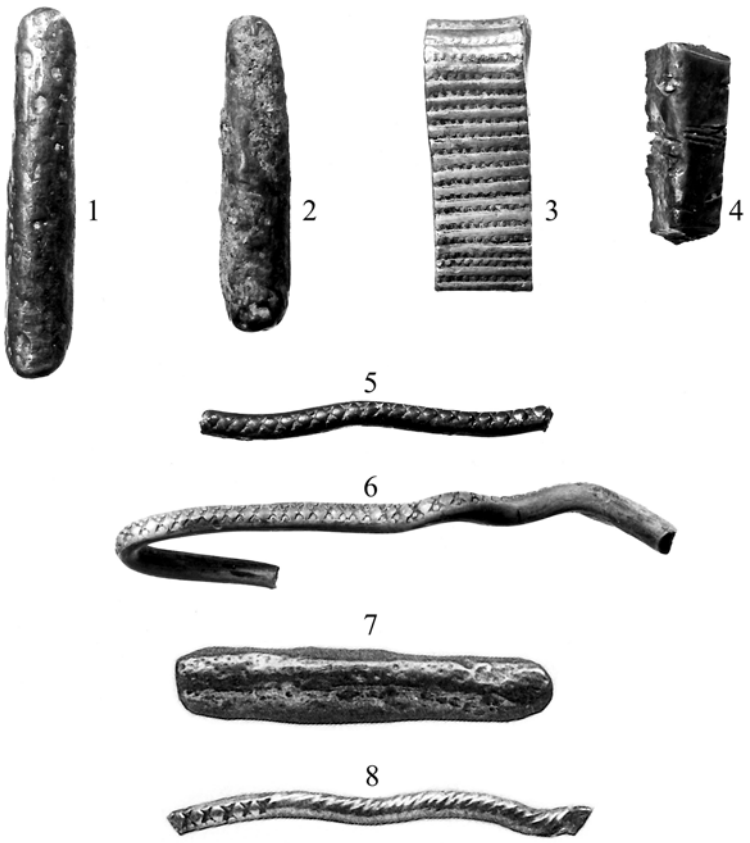


Figure 1.6 Ingots and hack-silver in the Croydon hoard: nos 1-6 (Evans collection, Ashmolean Museum), and 7-8 (Nelson collection, National Museums Liverpool)

Surrey (in 1862), is dated to *c.* 872, and it has thus been associated with the 871/2 over-wintering of the 'Great Army' in London (Brooks and Graham-Campbell 1986; 2000). Although small in size, consisting of eight pieces of bullion and *c.* 250 coins, the Croydon hoard is of exceptional importance, as being the earliest mixed hoard of undoubted Viking character known from Britain or Ireland (Graham-Campbell 2002a, 54–5), and thus its extant nicked ingots and hack-silver (cf. Kruse and Tate 1992, 302–4) are illustrated here (**Fig. 1.6**). The Croydon hoard is now divided between the Ashmolean Museum, Oxford and National Museums Liverpool, having passed through different private collections (Graham-Campbell 2011b).

The one remaining hoard from this period to be considered as 'Viking' in character, despite its contents being poorly recorded and including only one ornament, is that found in Laxfield churchyard, Suffolk, in 1819. Its East Anglian provenance, date of deposition (*c.* 878?), and the fact that it contained both Carolingian and Anglo-Saxon coins, all accord with the Viking character of its (lost) silver finger-ring (Whincopp 1861; 1863); this was described (in 1857) as bearing 'on the facet a cruciform ornament, formed of small concentric circles'.[17]

There are ten mixed hoards from England which are coin-dated to the first half of the tenth century (as known to December 2009; see below, Handlist 1), of which one, deposited at Plumpton, Sussex, in *c.* 945, is of Anglo-Saxon character, containing Trewhiddle-style fittings (found in 1989). The bullion content of only two of the remaining nine hoards is included in this catalogue: the greater part of that from Cuerdale (**1**), and the related, but far smaller hoard from Goldsborough, North Yorks (found in 1858), which was deposited some twenty years later, in *c.* 925 (**3**),[18] with the exception of a silver pendant (in the ownership of St Mary's Church, Goldsborough), as well as two lost ingots. Six of the other seven mixed hoards are also from the north of England (see **Fig. 9.2**), the one exception being that from the Thames, near Deptford, in Kent (deposited *c.* 935?), which included a plain rod arm-ring, now in the Ashmolean Museum, Oxford (Graham-Campbell 1986).

Of the six northern hoards (see **Fig. 9.2** for a distribution map), that found at Bossall/Flaxton, North Yorks (in 1807), deposited *c.* 927, would doubtless have been of great importance for the archaeologist, if it were not for the fact that its bullion contents (said to have weighed 'about two pounds') are long lost, with the exception of one silver arm-ring, with stamped decoration (**Fig. 1.7**), that is now in the Yorkshire Museum, York (Dolley 1955; Graham-Campbell 1993a; 2001b, 212–17, no. 1, fig. 16.2). On the other hand, the hoard from Harkirke, Little Crosby, Lancs, deposited *c.* 910 (found in 1611),

Figure 1.7 Silver arm-ring (or 'ribbon-bracelet') from the Bossall/Flaxton hoard, North Yorks

Figure 1.8 The Vale of York hoard

is lost in its entirety; its bullion component was referred to, in 1686, just as 'uncoyned silver' and so it may only have consisted of a few ingots (Edwards 1992, 52–4, no. 30; 1998, 42–5; Graham-Campbell 2001b, 219–20, no. 8, 227). The ten items of bullion in the hoard from Scotby, near Carlisle, Cumbria (found in 1855), consisting of one complete and five fragmentary ingots and four rod fragments, are worthy of note for their deposition in north-west England in *c.* 935 (Blunt 1974; Kruse 1986; Kruse and Tate 1992, 315–16; Edwards 1992, 57, no. 39); these are now in the Carlisle Museum and Art Gallery. They are, however, hardly remarkable when seen against the contents of the Cuerdale and Goldsborough hoards.

Two of the three other mixed hoards were discovered too recently for inclusion in this catalogue: that found in 2005 at Flusco Pike (no. 2), near Penrith, Cumbria (deposited *c.* 925), requires discussion in the context of the important coinless hoard to be considered below (**2**);[19] and the remarkable hoard metal-detected in the Vale of York (in 2007), which was also deposited in the 920s (*c.* 927–8), consisting of a Carolingian cup, closely related to that in the eleventh-century hoard from Halton Moor, Lancs (**4:1**), in and around which were 617 coins, a gold arm-ring and sixty-seven pieces of silver comprising arm-rings, ingots and hack-silver (**Fig. 1.8**), including fragments of both ball-type and bossed brooches, as well as associated fragments of lead sheet (Ager and Williams 2009; Williams and Ager 2010; see also Gareth Williams, p. 69).[20]

There only remains for mention a small find, metal-detected (in 1997/8) at Warton, near Carnforth, Lancs (*Treasure Annual Report 1997–98*, no. 167; Graham-Campbell 2001b, 218, no. 3), now in Lancaster City Museum. This consists of three Samanid dirhams, providing a *tpq* of 912/13 for its deposition, together with three ring fragments and part of an ingot, as well as two other small pieces of silver 'that may well have formed part of the same deposit' (Youngs and Porter, in *Treasure Annual Report 1998–99*, no. 84).

To this same general period, however, are to be dated six coinless silver hoards, all also from northern England (see **Fig. 9.2** for a distribution map). The most important of the well-known finds is that from Flusco Pike (no. 1), near Penrith, Cumberland (with its probable contents being recovered on three separate occasions: in 1785, 1830 and 1989); this consists of the remains of seven (or eight?) bossed penannular and 'thistle-brooches', which are all now in the British Museum (**2**), with a total weight of over 2kg of silver. On the other hand, a second such coinless hoard of similar date from Cumbria (found in 1847, at Orton Scar, Westmorland), consists only of a simple neck-ring and a fine bossed penannular brooch, with a replacement pin (**Fig. 1.9**); these have been in the possession of the Society of Antiquaries of London since 1851 (Birley 1964; Cramp 1964; Johansen 1973, 119, no. A11, figs 14c, 18c and 44; Edwards 1992, 50, no. 17; 1998, 31, fig. 15; Graham-Campbell 1992c, 110, fig. 9.2; 2001b, 223–4, no. 10). The coinless hoard from near Bowes, Co. Durham (found in 1983, and now in the Bowes Museum), may be considered equivalent in its significance to the Scotby hoard, consisting of twenty-one pieces of bullion, of which nineteen are complete or fragmentary ingots (Edwards 1985; Graham-Campbell 2001b, 224).[21]

A coinless hoard, unknown until recently (although a nineteenth-century discovery), consists of two silver arm-rings from a meadow outside Selby, North Yorks. These were inherited by their present owner from his grandfather who supposedly purchased them at the 1893 World's Fair in Chicago (Graham-Campbell 2008a).[22] Although similar in size, they do not form an exact pair because one is plaited from six rods (Diameter: 8.8cm) and the other consists of three pairs of

twisted rods, twisted together (D 8.6cm); they are both in excellent condition, with no nicks (**Fig. 1.10**). The small coinless hoard metal-detected (in 2001) at Eccleston, in Cheshire, consists only of one complete ingot and a piece of hack-silver in the form of 'a length of silver bar' (*Treasure Annual Report 2001*, no. 66).

The last coinless hoard for mention here was metal-detected near Huxley, Cheshire, in 2004,[23] and is altogether different in scale and composition (**Fig. 1.11**; Graham-Campbell and Philpott (eds) 2009), consisting of twenty Hiberno-Scandinavian broad-band arm-rings (all bent in half), of which sixteen are decorated (one unfinished) and four plain, together with a complete ingot and one other penannular arm-ring with stamped decoration (bent out of shape). It appears to have been deposited in, or under, a lead sheet or container. Although unique in character in northern England, the Huxley hoard clearly relates to the Cuerdale hoard and was doubtless likewise deposited during the early part of the tenth century.

There are three mixed hoards from England out of the twenty in Handlist 1 dated to the second half of the tenth century, of which one is to be considered as Anglo-Saxon: that from Tetney, Lincs, deposited *c.* 963 (to be considered below, pp. 17– 18). The non-numismatic contents of the hoard found at Oakham, Rutland (in 1749), are lost, but they were described at the time as consisting of 'a silver chain-ring and a great number of pieces of brass or golden wires, about an inch long' (Blunt and Lyon 1979).[24] On the other hand, the remaining tenth-century hoard is an important find, entirely 'Viking' in character, which was found at Chester in 1950.

The Chester (Castle Esplanade) hoard has a large bullion component consisting of at least ninety-eight ingots (twenty-three of which are complete), together with a collection of more than forty other pieces of hack-silver (**Fig. 1.12**), deposited in a pot with over 537 coins, in *c.* 965 (Webster 1953; Kruse and Tate

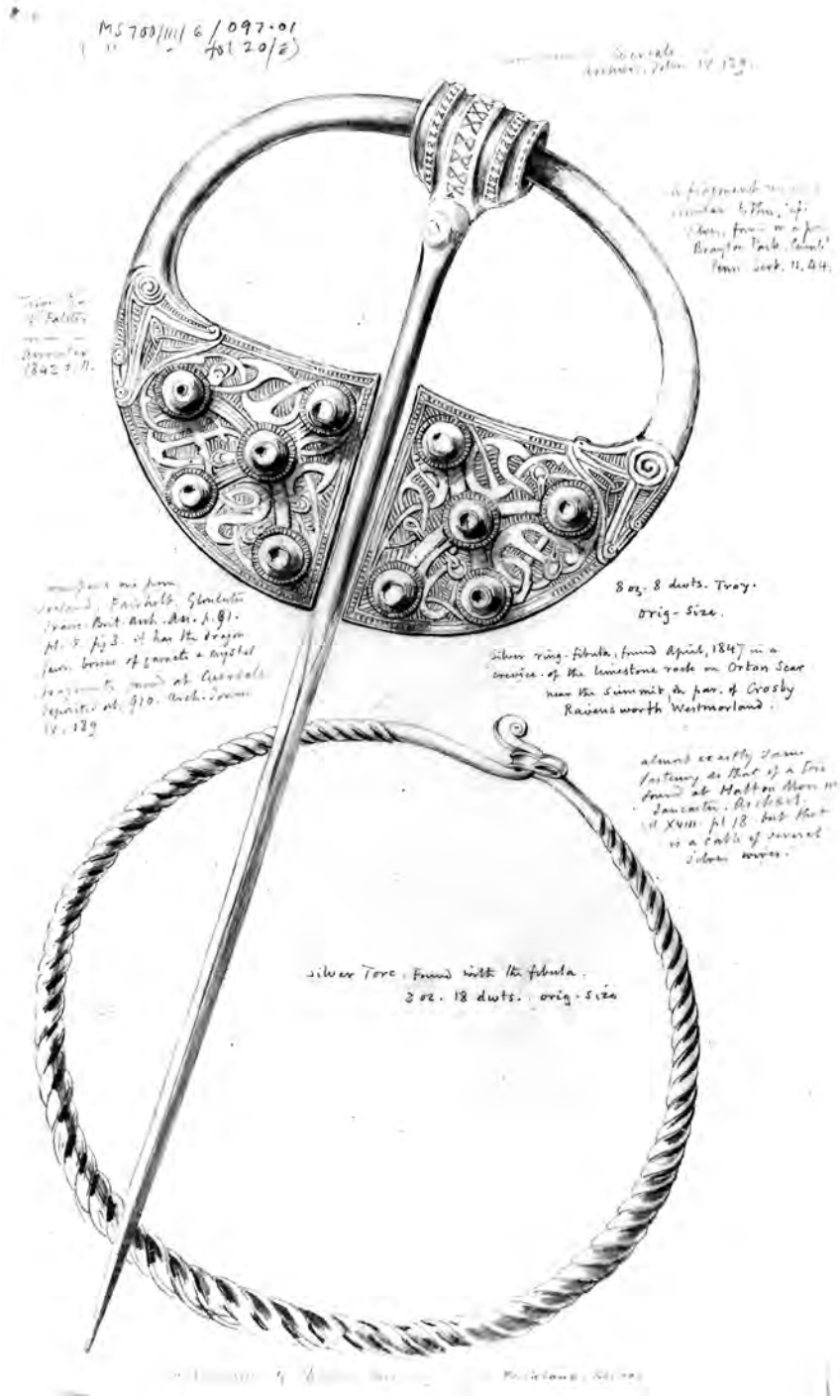

MS 703/III/6/097.01
fol 20/2
8 oz. 8 dwts. Tray.
Orig. Size.
Silver ring-fibula, found April, 1847 in a crevice of the limestone rock on Orton Scar near the summit in par. of Crosby Ravensworth Westmorland.
Silver Torc. Found with the fibula.
3 oz. 18 dwts. orig. size

Figure 1.9 The Orton Scar hoard, Cumbria: silver bossed penannular brooch (A11), and twisted rod neck-ring, with hook/hook terminals

Figure 1.10 Silver arm-rings found near Selby, North Yorks

Figure 1.11 Selection from the silver hoard found near Huxley, Cheshire

Figure 1.12 Part of the silver hoard found on the Castle Esplanade, Chester

Figure 1.13 Three fragmentary silver mounts, with Urnes-style decoration, from the Walbrook hoard, London (after Kendrick)

1992, 318–19); it was allocated to the Grosvenor Museum, Chester (who acquired a second parcel of ingots from the hoard in 1975). This quantity of bullion clearly reflects the Viking-age economy in regions beyond the shores of Anglo-Saxon England, and it had most probably been brought to the port (and mint) of Chester by a merchant from Ireland, or maybe the Isle of Man (cf. the Ballaquayle hoard: **13**).

Only three of the fourteen mixed hoards in Handlist 1, dating from the first half of the eleventh century, are from England. The main non-numismatic contents of the most important of these, that found in 1815 on Halton Moor, Lancs (deposited *c.* 1070?), are in the British Museum (**4:1–3**); the exceptions are a gold foil disc (**4:4**), which reached the Royal Collection of Coins and Medals in Copenhagen, in 1858, whence it was transferred to the National Museum's Department of Prehistory and registered as a bracteate (Axboe *et al*. 1986, no. 359), and four further gold discs which are lost (**4:5–8**). The sixty coins which form a hoard, deposited *c.* 1000, at Barsham, Suffolk (found in 1987), were wrapped in an Anglo-Saxon silver disc brooch (West 1998, 9, fig. 8.4), and that from London (Honey Lane), also deposited *c.* 1000 (found in 1836), is considered below because the scramasax that was seemingly found together with the coins is in the British Museum (Wilson 1964, no. 43).

In contrast, from the second half of the eleventh century, six out of the nine mixed hoards in Handlist 1 are from England; this is, in part, to be explained by the events of 1066. Only two of these finds are known to have contained objects of Viking character: that from Soberton, Hants (found *c.* 1850), is in the British Museum (**7**), and consists of two gold finger-rings, deposited *c.* 1068. On the other hand, the problematic hoard found in London in 1872, at Queen Victoria Street ('Walbrook'), deposited *c.* 1066/74,[25] seems to have contained the three silver fragments with Scandinavian Urnes-style decoration (**Fig. 1.13**), now in the Museum of London (ex-Guildhall Museum), the like of which is not represented in the British Museum's collection (Shetelig 1935; 1948, 108, fig. 33; Kendrick 1949, 118–19, fig. 20,b). At any rate, they can readily be said to fit the description (quoted above): 'fragments of a silver ferrule of a walking staff engraved with runic ornament'. It has most recently been suggested that these 'almost certainly adorned a Scandinavian import, probably a late Viking spearhead of Petersen Type G from eastern Scandinavia or the Baltic' (Owen 2001, 205).

Two of these late eleventh-century mixed hoards both contained a silver disc brooch, one of which is in the British Museum (to be considered below): that found at Sutton, Isle of Ely, Cambs, in 1694 (deposited *c.* 1070?), together with five lost gold rings. The brooch from the hoard found at Oving, near Chichester, W. Sussex, in 1789 (deposited *c.* 1066), is lost, but it is clear from its description that it belonged to the same late Anglo-Saxon type, being 'a silver circular plate, about four inches [10cm] in diameter, carved with cross-work, out of which rose six or eight little bosses' (Camden 1806, 288; Metcalf 1957, 198).[26] The 'gold filigree brooch set with sapphire and pearls' that formed part of the London (St Mary Hill) hoard, found in 1774 (deposited *c.* 1074), was illustrated by the Rev. Dr Guyon Griffith (1786, 357, pl. xxi, figs 1–2) and is clearly not of Viking character.

The nature and quantity of the lost gold bullion from the Oulton, Staffs, mixed hoard, deposited *c.* 1069, is problematic (Robinson 1969, 24–30; 1979). The earliest report of this discovery (published in the *Staffordshire Advertiser*, on 7 March 1795) refers only to 'a gold ring' having been found with the silver coins, but two days later (in an account published in *Aris's Birmingham Gazette*), this had become 'a number of gold rings and bracelets'. On the other hand, there exists a letter from a local solicitor, John Dent (written to a local antiquary, Stebbing Shaw, on 19 February 1799), which states that 'there was also found a Gold Ring, quite whole and a lump of pure gold, which Mrs Shelley has also …' (Robinson 1969, 25).

In addition to there having been gold rings in the three late eleventh-century hoards so far mentioned, there are two small coinless hoards in existence from the south of England, neither of which is in the British Museum, which both consist solely of two gold finger-rings (cf. Handlist 2); all four represent different eleventh- to early twelfth-century types (as discussed below, pp. 104–9). Two rings (**Fig. 1.14**) were found on separate occasions, in 1983, at Great Wratting, Suffolk (Graham-Campbell 1989), and two together at Chichester, W. Sussex (**Fig. 1.15**).[27] The comparative hoard evidence thus suggests that Dent's account of the (lost) Oulton hoard is likely to be the most accurate, and it may be supposed that it contained just the one gold ring, most probably a finger-ring (if of unknown type),

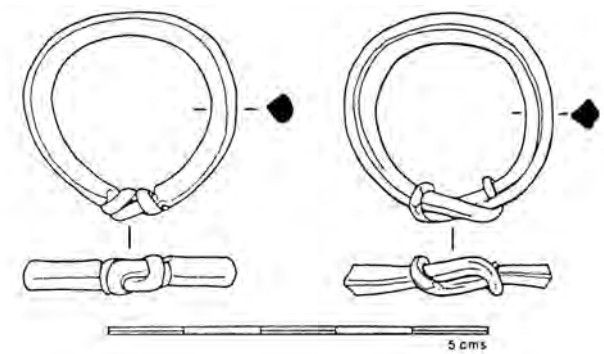


Figure 1.14 Two gold finger-rings from Great Wratting, Suffolk

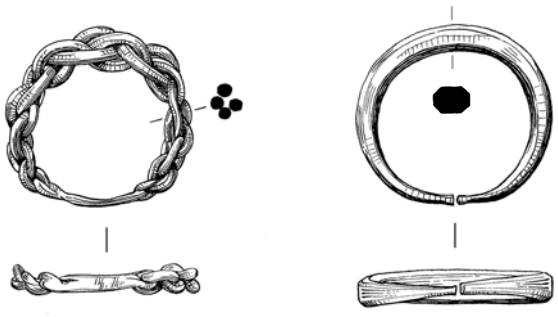


Figure 1.15 Two gold finger-rings from Chichester, W. Sussex

together with what could have been a small gold ingot (as Robinson 1969, 30), if not part of another such (plain) ring.

Only one of the two later mixed hoards from England is represented in the catalogue (**5**), that from Lark Hill, near Worcs (found in 1854); this was deposited *c.* 1175, and so well after the end of the Viking Age. It is included only for its one silver finger-ring of Viking character, which is made of twisted rods (the other five or six in the hoard all being of later medieval types), as explained above. The hoard from Brackley, Northants (found in 1986), deposited 1170–4, contains only one finger-ring, also of later type, having a facetted rectangular bezel containing a setting, like three of those in the Lark Hill hoard (Archibald and Cook 2001, 7–11).

The only other hoard from England in the British Museum deemed to be of Viking character is the coinless gold 'assemblage' found in the garden of Shotton Hall, near Sunderland, Co. Durham, in 1881 (**6**); nothing else like this is known from Britain or Ireland.

The majority of the twenty-two single-finds catalogued here, as being in the British Museum,[28] were found in England, amounting to a total of fourteen ornaments: three complete gold arm-rings (**18–20**); eight complete gold finger-rings (**26–33**); and three silver pendants (**39–41**). The ratio of complete gold finger- to arm-rings is notable and reflects that for Britain and Ireland as a whole, with there being about two and a half times as many complete gold finger-rings of Viking character on record as there are complete arm-rings (see below, Handlist 2). The three single-finds of silver pendants are all recently metal-detected items and, as such, are representative of this class of ornament, previously known only from hoards, particularly given that one of them represents Thor's hammer (**39**), and another is a coin pendant (**41**). The fourth pendant, in the form of a Borre-style animal (**40**), is a unique find for Britain and Ireland, but it is of a well-known Scandinavian type.[29]

Single-finds of gold and silver ingots have also begun to be made through metal-detecting in England (as in Scotland); none of these has entered the British Museum. They have instead been acquired by local museums, or remain in private possession (for which, see the *Treasure Annual Reports*). On the other hand, there is already a large number of Viking-age silver ingots in the Museum, by virtue of its collection of material from the Cuerdale hoard (**1**), together with one gold ingot from Ireland (**17**).

In conclusion, it is clear that the British Museum's collection of gold and silver of Viking character found in England, whether in hoards or as single-finds, is to be considered representative of the surviving material known to have been discovered by the end of AD 2000. That this is so is, in reality, because the Museum owns – or enjoys on loan – by far the greatest number of the relevant artefacts, as catalogued below.

Ireland

The British Museum's collection of Viking-age gold and silver found in Ireland contains few important pieces (with one obvious exception, in the form of a gold arm-ring: **21**), and no such material of Irish provenance has been acquired since the end of the nineteenth century. However, even if the Irish collection is not intended to be representative, it comes close to be being so as a result of the quantity of items of Irish and Hiberno-Scandinavian manufacture contained in the Cuerdale, Flusco Pike (no. 1), and Goldsborough hoards (**1–3**), all three of which are from northern England.

The Irish collection comprises an incomplete arm-ring hoard (**8**), and three small coinless hoards: from Co. Cork (**9**) and Scattery Island, Co. Clare (**10**), together with an unprovenanced find of two arm-rings (**11**), although the latter could have formed part of a larger hoard, given its lack of documentation. The incomplete hoard (**8**) was probably found near Athlone, Co. Westmeath; it is known to have consisted of four or five Hiberno-Scandinavian broad-band arm-rings, of which two are in the British Museum (**8:1–2**), and one (**8:3**) is in the possession of the Royal Irish Academy (now in the National Museum of Ireland, Dublin).

In addition, there are seven single-finds from Ireland in the British Museum, comprising: one gold ingot from Co. Cork (**17**); four arm-rings, of which one is gold (**21**) and the others of silver (**22–4**); and two gold finger-rings, one from near Drogheda, Co. Louth (**34**), and the other from near Waterford (**35**). One of the silver arm-rings is unprovenanced (**24**), and the other two poorly so, one being just from 'the North of Ireland' (**23**), and the other being tentatively attributed here to 'Co. Westmeath' (**22**). On the other hand, the one gold arm-ring, from Munterconnaught (Virginia), Co. Cavan (**21**), is an exceptionally fine example, of elaborate workmanship, and is the only complete ring of its kind on record from Britain and Ireland.

Isle of Man

As described above (p. 4), the contents of the mixed hoard found at Ballaquayle (Douglas), in 1894, were divided between the British and Manx Museums, although catalogued together here (**13**). All subsequent finds of Viking-age gold and silver have been acquired by the Manx Museum (Cubbon 2000), although the British Museum had earlier purchased, as Treasure Trove (in 1870), the coinless silver hoard found at Ballacamaish, Kirk Andreas, in 1868 (**12**).[30] There are no single-finds of Viking-age gold or silver from the Isle of Man in the British Museum, but then there are only three such pieces on record in the Manx Museum: a fragment of silver 'ring-money' found outside Peel Castle (Graham-Campbell 1983a, 77), although 'in the material probably shot over the walls in the 1870s refurbishment' (Freke 2002, 308); a 'curved silver rod ?bracelet fragment' (*ibid.*), from the fill of a medieval grave excavated on St Patrick's Isle (Peel Castle); and a fragment of an ornamented silver arm-ring, metal-detected (in 2007) in the parish of Bride, of a distinctive type represented in the Cuerdale hoard (**1:417**), discussed below (p. 92).

The plaited gold finger-ring found at Greeba, in 1981 (Graham-Campbell 1983a, 80; Cubbon 2003), is no longer to be classified as a single-find following the discovery in the same field (in 2002) of part of a second gold finger-ring, of comparable Viking-age date (Wilson 2004), as also of a twisted gold finger-ring in 2005 (**Fig. 1.16**; Wilson 2008, 114–15, fig. 54; Graham-Campbell and Wilson, in preparation). In 2003, a mixed silver hoard was found at Glenfaba, deposited *c.* 1030, which consists of 464 coins, 25 ingots (complete and fragmentary) and an arm-ring, with a total weight of *c.* 1.39kg (Fox and Bornholdt Collins 2004; Hall 2007, 202 and fig; Blackburn 2008, 130–2; see also below, p. 157).

Figure 1.16 Hoard of three gold rings from Greeba, Isle of Man

Figure 1.17 The hack-silver from the Bangor hoard, North Wales

The gold and silver ornaments and hack-silver in the Ballaquayle hoard, deposited *c.* 970, would (together with the associated coins) have weighed in the region of 2kg, and they comprise the most important group of such material to have been found in Man; the British Museum's collection may thus be considered as representative of its hoard-finds, except for the fact that there are two mixed hoards of eleventh-century date with Manx provenances in Handlist 1 (as catalogued and illustrated in Graham-Campbell 1983a), which both contain 'ring-money' of the type used in Scandinavian Scotland, with some evidence to suggest that there may well have been another such find.[31] This is one category of Viking-age silver artefact from Britain that is poorly represented in the British Museum (see below).

Scotland

The British Museum contains the only two surviving items from two mixed silver hoards found in Scotland (Handlist 1): a single ingot from Tiree (**15**), deposited *c.* 970, and a fragment of chain from Inch Kenneth (**14**), deposited *c.* 1000. These gifts, from 1807 and 1851 respectively, were both 'left-overs' from hoards found – and dispersed – some twenty years previously. They cannot be said to have laid the foundation for a representative collection of Viking-age silver and gold from Scotland, but in any case this material belongs (almost in its entirety) to the National Museums of Scotland (as catalogued in Graham-Campbell 1995, and updated in 2008b).[32] Indeed, the British Museum's two silver arm-rings (**16:1** and **2**), which were recorded as 'found in Scotland' by A.W. Franks, who purchased them in Edinburgh (in 1851), are otherwise undocumented (**16**). No information at all survives for another silver arm-ring (**25**), although this is to be associated with the other two (as **16:3**) on the basis of its stamped decoration (Graham-Campbell and Sheehan 1995). These three complete arm-rings are all of the Hiberno-Scandinavian broad band type and, for this reason, they are perhaps best treated as fine examples of Viking-age ornaments from Ireland, given that no other such complete rings are on record from Scotland (but cf. those in the Huxley hoard, from Cheshire, already mentioned (**Fig. 1.11**), and the hoard from Anglesey (**Fig. 1.18**), see below).

There is only one single-find of gold or silver of Viking character from Scotland in the British Museum: a gold finger-ring that forms part of the Franks (1897) bequest, from Tundergarth, Annandale, Dumfriesshire (**36**). The elaborate nature of its decoration is unparalleled by any of the other nineteen or so gold finger-rings known from Viking-age/Late Norse Scotland, but it is a scaled-down version of a type of gold arm-ring (**Fig. 1.4**) that formed part of the lost hoard from Hare Island, in the Shannon, Co. Westmeath (Graham-Campbell 1974; 1995, fig. 18).

It should be noted that the Museum does not possess any example(s) found in Scotland of the simple form of penannular arm-ring, known as 'ring-money', which forms such a characteristic element in the mid-tenth- to eleventh-century hoards from Scandinavian Scotland (Graham-Campbell 1995, 57–9). The collection does, however, contain one such complete ring from Ireland (**24**), as well as two of those that formed part of the Ballaquayle hoard, Isle of Man, deposited *c.* 970 (**13:4** and **5**). In addition, the relevant contents of the Cuerdale (**1**) and Goldsborough (**3**) hoards would seem to indicate that the origins of the type may have lain in the Irish Sea region (as discussed in Chapter 5).

Wales

As noted above, there is no silver or gold of Viking character from Wales in the British Museum. However, the existence of such Viking-age material is somewhat limited, consisting of: one mixed hoard from Bangor (in the Museum of Welsh Antiquities, Bangor); one coinless hoard from Anglesey (in the National Museum of Wales, Cardiff); recent finds of coins (including a small hoard deposited *c.* 850?), ingots and hack-silver made during metal-detecting and excavation at Llanbedrgoch, on Anglesey; and the single-find of a gold finger-ring from near Mold, also in north Wales.[33] The bullion content of the Bangor hoard, deposited *c.* 925, comprises only two pieces of hack-silver (**Fig. 1.17**), but the silver hoard from Dinorben Quarry (Red Wharf Bay), on Anglesey, consists of five fine Hiberno-Scandinavian arm-rings (**Fig. 1.18**), all of the broad-band type, with stamped decoration (cf. hoard **16**, from 'Scotland').[34] The Llanbedrgoch assemblage is currently undergoing post-excavation research, but a selection of the finds is illustrated here for comparative purposes (**Fig. 1.19**).[35] The gold finger-ring, which was found at Nercwys, Flintshire, during metal-detecting in 2005, is in the form of an annular band with vertical plain grooves.[36]

Exclusions

Hoards

There are eight mixed hoards of Viking-age date in the British Museum, all from England, that have been excluded from this catalogue on the basis that their non-numismatic contents are not of Viking character, as defined above. These are numbered according to Blackburn and Pagan 1986 (see also Handlist 1):

Figure 1.18 The silver hoard from Dinorben (Red Wharf Bay), Anglesey: five Hiberno-Scandinavian broad-band arm-rings

54 Sevington, Wilts: *c.* 850 (Wilson 1964, nos 67–79)
41 Kirkoswald, Cumberland: 850s/860s? (*ibid.*, no. 28)
59 Trewhiddle, Cornwall: *c.* 868 (*ibid.*, nos 90–103)
64 Gravesend, Kent: *c.* 871 (*ibid.*, no. 20)
73 Beeston Tor, Staffs: *c.* 875 (*ibid.*, nos 2–7)
141 Tetney, Lincs: *c.* 963 (*ibid.*, nos. 86–7)
199 London (Honey Lane): *c.* 1000 (*ibid.*, no. 43)
276 Sutton (Isle of Ely), Cambs: *c.* 1070? (*ibid.*, no. 83).

Figure 1.19 Part of the assemblage of Viking-age silver excavated at Llanbedrgoch, Anglesey

The five ninth-century hoards listed above all contain Anglo-Saxon artefacts (as catalogued in Wilson 1964), that from Sevington seemingly being a metalworker's cache. According to Webster (in Webster and Backhouse (eds) 1991, 268), the hoard from Beeston Tor (*ibid.*, no. 245) and 'perhaps' that from Trewhiddle (*ibid.*, no. 246) 'look more like Anglo-Saxon concealments' than Viking loot. In the case of the former, the 'coins which date its deposition to *c.* 875…perhaps associate its concealment with the Viking army's over-wintering at nearby Repton in 873/4' (*ibid.*, 269; see also Brooks and Graham-Campbell 1986, 109–10; 2000, 90–1). The problem presented by the Trewhiddle hoard is, as stated by Webster (in Webster and Backhouse (eds) 1991, 272), that 'as with the associated coins, in which several separate parcels have been discerned, it looks as if this hoard contains more than one discrete assemblage of precious metalwork'.

In consequence, Brooks and Graham-Campbell concluded (1986, 109; 2000, 90): 'At all events Trewhiddle is too problematic to be reliably associated with (or separated from) the presence of the great army in Exeter in 876–7.' The fact remains, however, that – even if the Trewhiddle hoard does represent Viking loot – no metalwork of Viking character was added to this treasure before its concealment.

Brooks and Graham-Campbell have also suggested that the Gravesend hoard might 'have been buried in the autumn of 871 when the [great] army first entered London', but the problem remains as to 'whether it be deemed a Viking or an English treasure' (1986, 106; 2000, 86). Its only piece of ornamental metalwork is a silver pendant cross, with a central glass setting, of Anglo-Saxon manufacture (Wilson 1964, no. 20). In the first place, the case for Gravesend being a Viking treasure was based on the composition of its coins (a mixture of pennies from Mercia, Wessex and East Anglia, together with a single denier of Louis the Pious). This range is 'in some ways very similar' to that of the Viking hoard deposited at Croydon, Surrey, in about 872 (Brooks and Graham-Campbell 1986, 106; 2000, 86), which it has been suggested 'probably represents the accumulated treasure of a member of the great army' (*ibid.*, 105; 85), but Gravesend could in fact have been a local currency hoard, as Pagan has since pointed out (in Graham-Campbell 2002a, 56), given that all its Anglo-Saxon coins 'are likely to have been struck within easy reach of the Thames estuary'. A second argument for Gravesend being a Viking treasure has been advanced by Archibald who has pointed out (1990, 14) that it 'is the earliest English hoard whose coins have been

Figure 1.20 Silver bossed penannular brooch from 'Ireland' (A2), in the British Museum (MME: 1888,0719.102)

systematically bent, if only slightly', her overall conclusion being that 'it seems reasonable to infer that hoards of tested coins had passed through Danish hands', although it also seems reasonable to speculate that the 'slight bending' might, in this instance, have been 'somehow accidental rather than deliberate' (Graham-Campbell 2002a, 56).

Even if there is currently no overall agreement as to whether Gravesend is to be regarded as an Anglo-Saxon or Viking hoard, it has ultimately been excluded from this catalogue on the same basis as the Kirkoswald hoard, to be considered next, which is that the only artefact for discussion (its pendant cross) is a single piece of late Anglo-Saxon metalwork already catalogued by Wilson (as above).

The single item in the Kirkoswald hoard (found in 1808), which otherwise consists exclusively of Northumbrian stycas, is a silver trefoil ornament, with filigree decoration and garnet settings (Wilson 1964, no. 28; Edwards 1992, 52, no. 29; 1998, 46–7). Dolley once suggested (1966, 23) that the deposition of this hoard 'might reflect the plight of those fleeing from the Danish assault upon Northumbria only to find themselves caught up in the Norwegian attacks upon Cumbria'.

On the other hand, Graham-Campbell has commented (1992c, 107):

> The magnificent ornament is Anglo-Saxon, but contains within one of its arm-pits a deep nick in the edge of its base-plate, a cut characteristic of the type used in Scandinavian silver-testing. This feature, not previously noted in print, indicates that the object had fallen into Norse hands so that it is reasonable to interpret Kirkoswald as a 'Viking' hoard, although consisting solely of Anglo-Saxon material.

Both these interpretations are necessarily speculative, but (as with Gravesend) there seems, in any case, little purpose in duplicating Wilson's own catalogue entry and his discussion of this non-Scandinavian ornament, even if it must be considered due for re-appraisal in the light of recent work on filigree-decorated metalwork of the period (e.g. Duczko 1985, 106–11; Fuglesang and Wilson (eds) 2006).

Although the Tetney hoard from Lincs, which was deposited *c.* 963 in a chalk container, contains a mixture of Anglo-Saxon and Viking coins, its only non-numismatic element consists of a pair of plain silver hooked-tags previously published by Wilson (1964, nos 86–7); these presumably served as bag or purse fasteners, like those in the mid-tenth-century hoard of Anglo-Saxon coins from the Forum in Rome (Graham-Campbell and Okasha 1991, 223). The simple sub-triangular shape of the Tetney hooked-tags indicates that they are to be considered as basic examples of a standard ninth/tenth-century form of Anglo-Saxon fastener (cf. Webster, in Webster

and Backhouse (eds) 1991, nos 197a and 200; Webster, in *Treasure Annual Report 2000*, 36–8, nos 47 and 50).

The coin hoard from London (Honey Lane), deposited *c.* 1000, was seemingly associated with an iron scramasax, inlaid with bronze and copper, when it was discovered in 1836 (Wilson 1964, no. 43); given that this is a late Anglo-Saxon artefact, lacking in any gold or silver decoration, there are clearly no grounds for its inclusion in this catalogue.

The latest of the eight mixed hoards excluded from this catalogue is that from Sutton, Isle of Ely, Cambs (deposited *c.* 1070?), containing a large silver disc brooch (Wilson 1964, no. 83; Bruce-Mitford 1974, 330–6, figs 57–8, pls 107–8a), described by Wilson as 'pseudo-Viking' (1964, 50; see also Webster 2012, 223–4, fig. 196). The Sutton brooch:

> …was turned up by the plough in 1694 in a lead casket with about a hundred silver coins of William the Conqueror, five heavy gold rings, [and] a plain silver dish (or disc). (Wilson 1964, 177).

Had the five gold rings survived, however, the Sutton hoard would certainly have been a candidate for inclusion here.

Single-finds

The single-finds to have been excluded comprise five silver penannular brooches, from Ireland, and a couple of finger-rings. The former consist of four bossed brooches (cf. **Fig. 1.20**) and one 'thistle-brooch', none of which can truly be said to be of 'Viking character', although both types are discussed briefly below (in Chapter 6) because they are represented in the hoards from Cuerdale (**1**), Flusco Pike (**2**), Goldsborough (**3**) and Ballaquayle (**13**). It is, however, intended that these brooches (listed below) will be included in a future catalogue of late Celtic metalwork in the British Museum.

Bossed brooches

MME: 1869,0301.1	Galway (Johansen 1973, A14)
MME: 1888,0719.102	Unprovenanced (*ibid.*, A2; **Fig. 1.20**)
MME: 1888,0719.103	Unprovenanced (*ibid.*, B2)
MME: 1890,0215.13	Nr Omagh, Co. Tyrone (*ibid.*, A5)

'Thistle-brooch'

MME: 1888,0719.105	Clooneen, Co. Longford[37]

The Museum possesses a plain silver finger-ring from the vicinity of a Viking-age burial mound at Ardvonrig, Barra (MME: 1895,0613.21). This was omitted from Graham-Campbell's Scottish catalogue (1995, 5), following its earlier rejection by him (1976a, 131) on the grounds that:

> According to the BM register, it was found in the area surrounding the mound along with other objects, including two bronze stick-pins. Its simplicity precludes close dating and, although it is likely to be medieval, it could well be post-Norse in date.

A gold finger-ring of plaited rods, of undoubted Viking character, which forms part of the (1897) Franks bequest (ex-Soden Smith collection),[38] is unprovenanced. It has thus been excluded from this catalogue, given that it could equally well have been found in Scandinavia as in Britain or Ireland (MME: AF 538; Dalton 1912, no. 215b), despite it having been included in Hinton's list of 'Gold and silver rings ascribed to the tenth and eleventh centuries found in England and Wales' (1978, 158, no. 29).

Finally, attention must be drawn to an undoubtedly Scandinavian, silver-gilt lid from a reliquary cross, metal-detected at Thwaite, Suffolk, in 1999 (*Treasure Annual Report 1988–1999*, no. 176), and subsequently acquired by the British Museum (MME: 2000,0910.1). Although this is to be dated to the late eleventh century, it displays no legacy from the Viking-age artistic tradition, unlike (for example) the larger and more elaborate example from a silver hoard found at Gåtebo, Öland, Sweden (Graham-Campbell 1980, no. 533).

Notes

1 This basic threefold categorisation of Viking-age silver hoards, by the presence/absence of coins and bullion (ingots, ornaments and/or hack-silver), is that introduced by me in a paper given at the Seventh Viking Congress, Dublin, in 1973 (Graham-Campbell 1976b), and since utilised in my catalogue of the Viking-age hoards from Scotland (1995); it is employed again here for reasons of simplicity, despite the welcome revisionist approach advocated by John Sheehan (2000b; 2004; 2005b; 2007), given its elaboration.

2 It does, however, seem to have contained a Viking-age oval brooch, unfortunately without known provenance (and long since missing), given that it was said of an oval brooch from Scotland, exhibited to the Society of Antiquaries of London in 1763, that 'exactly the fellow of it is in the British Museum' (*Vetusta Monumenta* ii (1789), 2); the Museum did not acquire another oval brooch before the end of 1853, when A.W. Franks purchased one of the pair found in Phoenix Park, Dublin (MME: 1854,0307.1), from the collection of Joseph Huband Smith, the other one of which had been acquired by J.J.A. Worsaae in January 1847, during his visit to Dublin (*Archaeological Journal* xi (1854), 58; Shetelig (ed.) 1954, 241, fig. 82; Henry (ed.) 1995, 11).

3 See now, Wilson 2002.

4 CE3/16, 4725–6 (31 March 1838).

5 From A.W. Franks, 'The Apology of my Life' (reproduced in Caygill and Cherry 1997, Appendix 1).

6 His reason for visiting Mullingar on this occasion was in order to 'make a selection from the collection of…Mr Richard Murray of Mullingar' (Caygill 1997, 175).

7 Including a Viking oval brooch (see note 2, above).

8 On this occasion, the Museum did not acquire his silver pseudo-penannular brooches from Scattery Island (**10**), which were eventually to be purchased at the sale of the Purnell Collection (in 1872).

9 These were transferred to the (then) Department of Medieval and Later Antiquities in 1989.

10 Information about the discovery of the Spillings hoard(s) appeared in *Viking Heritage Magazine* 1999:3, 7; 1999:4, 12; 2000:1, 17 (with cover photo); and 2000:4, 6–8 (= Korpås *et al.* 2000), but for a more recent summary, see Östergren (2008/9).

11 The deposition dates of the Terslev and Vålse hoards are quoted from the (2003) displays in the National Museum, Copenhagen.

12 This date-range for the deposition of the Skaill hoard is a decade later than that proposed by Michael Metcalf (in Graham-Campbell 1995, 20), at the suggestion of Gareth Williams, so as to allow a slightly longer period for the circulation of the nineteen dirhams, the latest two of which are dated 941/2 and 945/6.

13 The deposition of the Dysart Island (no. 4) hoard was dated to *c.* 907, with reference to Cuerdale – when Cuerdale was dated to *c.* 905, rather than to *c.* 905–10, as below by Gareth Williams (pp. 64–7) – and thus the date is given here as *c.* 910, as recently proposed by Blackburn (2007b, 128, 141, no. 93; see also Archibald, below, p. 62).

14 *Treasure Annual Report 2004*, no. 137.

15 *Portable Antiquities & Treasure Annual Report 2007*, no. 197.

16 The whereabouts of a possible coinless hoard from Torksey is no longer known, but the material was photographed in 1995 by Kevin Leahy (to whom I am grateful for the information), consisting of one complete ingot, four ingot terminal fragments, a fragment of spiral ring and a fragment of a prototype Hiberno-Scandinavian broad-band arm-ring (Graham-Campbell 2002a, 56); it is, however, probable that this supposed 'hoard' is no more than a random assemblage from metal-detecting (Blackburn 2011, 234–5, 259–60, pl. 4). Another piece of hack-gold to have been published from Torksey is a fragment of a finger-ring, with ring-stamped decoration, in *Treasure Annual Report 2005/6* (no. 215).

17 On the occasion that this finger-ring was exhibited, by William Whincopp, to the Archaeological Institute, as recorded in the *Archaeological Journal* xiv (1857), 177.
18 The deposition of the Goldsborough hoard has for long been considered to date to *c*. 920 (Blackburn and Pagan 1986, no. 101), but Gareth Williams redates it here to *c*. 925 (pp. 236–7), together with the mixed hoard from Warton, Lancs (no. 101a, in the Fitzwilliam Museum's online 'Checklist of Coin Hoards from the British Isles').
19 The contents of this (2005) hoard, from the 'Penrith area', now known as Flusco Pike (no. 2), are listed in *Treasure Annual Report 2005/6* (no. 310); these included 'up to 120 coins', together with a complete ingot and hack-silver, a selection of which is illustrated in *TAR 2005/6* (figs 310, 1–2).
20 Preliminary publicity included illustrated articles in: *Treasure Hunting* (Oct. 2007), 8–10; *Current Archaeology* 212 (Nov. 2007), 26–30; *British Archaeology* 97 (Nov.–Dec. 2007), 32–3; and *British Museum Magazine* 65 (Winter 2009), 42–5.
21 Note that the find-spot is in (modern) Co. Durham, not Yorks as stated by Edwards (1985).
22 In the collection of Mr Laird Landmann, California, but currently on loan to the Metropolitan Museum of Art, New York.
23 *Treasure Annual Report 2004*, no. 75.
24 This quotation (Blunt and Lyon 1979, 112) is taken from the *Society of Antiquaries of London: Minutes Book* (1749/50).
25 The problems concerning the nature and extent of the numismatic contents of the Walbrook hoard have most recently been reviewed by Stott (1991, 292–5).
26 The account of the Oving hoard was an addition to the 1806 edition of Camden's *Britannia* (vol. 1); the brooch was listed by Wilson (1964, 112), but overlooked by Bruce-Mitford (1974).
27 I am most grateful to Dr Gabor Thomas for having arranged for these neglected rings to be drawn by David Williams especially for publication here (courtesy of Chichester Museum).
28 This figure excludes both the two Cumbrian 'thistle-brooches' (**37** and **38**), attributed here to the Flusco Pike (no. 1) coinless hoard (**2**), and the unprovenanced arm-ring (**25**), attributed here to the coinless hoard reputedly found in Scotland (**16**).
29 Since this catalogue was closed, at the end of 2000, the Museum has acquired a further Viking-age pendant that was likewise imported from Scandinavia, in the form of a silver filigree decorated face-mask, metal-detected near Bridlington, East Yorkshire (MME: 2001,0501.1).
30 Sir William Betham's *Sketch-Book of Antiquities*, dating from the 1820s to 1840s (and now in the National Library of Ireland), contains a drawing of four pieces of silver 'ring-money', labelled 'found in…the Isle of Man', which was thought to represent a lost Manx coinless hoard (Graham-Campbell 1983a, 62, fig. 6). The rings have, however, recently been recognised in the National Museum of Ireland, and it is now thought likely that they constitute a find (*c*. 1836) from Balladoole (Graham-Campbell and Sheehan 2007).
31 From West Nappin and Kirk Michael, whereas the 'old rings' or 'silver bracelets' from the Kirk Andreas (1874) hoard are lost; it should be noted that the ring in the recently discovered mixed hoard from Glenfaba (2003) is of different type, being made of plaited rods.
32 The Viking-age gold and silver from Scotland in the British Museum was included, for the sake of completeness, in Graham-Campbell (1995): the Inch Kenneth hoard (**14**) = [10]; the Tiree hoard (**15**) = [4/7]; the unprovenanced hoard (**16**) = [21]; and the Tundergarth finger-ring (**36**) = [S9].
33 In addition, a base gold ingot fragment, of possible Viking-age date, is known from Trevor, Llangollen, Denbighshire (*Treasure Annual Report 2004*, no. 493), and there is a complete silver ingot from Talgarth, Powys (*Portable Antiquities & Treasure Annual Report 2007*, no. 213).
34 The hoards from Bangor and Dinorben Quarry are illustrated and discussed by Boon (1986); see also Redknap (2000).
35 I am most grateful to the excavator, Dr Mark Redknap (National Museum of Wales), for making this material available to me for study in advance of his own publication (cf. *Treasure Annual Report 1998–1999*, nos 85–7; *2000*, no. 46; *2001*, no. 205; *2002*, no. 62; *2003*, nos 406 and 427; *2004*, nos 491–2; *Portable Antiquities & Treasure Annual Report 2007*, no. 183); see also Redknap 2000; 2004, 156–8; 2006, 28–9; 2009); the coin hoard is no. 56a in the Fitzwilliam Museum's online 'Checklist of Coin Hoards from the British Isles'.
36 *Treasure Annual Report 2004*, no. 490, since acquired by Mold Museum, Flintshire (*Art Fund 2006 Review*, no. 5845); cf. the Hiberno-Scandinavian broad-band arm-ring from Portumna, Co. Galway (Sheehan 1990b).
37 The published provenance of this brooch is 'Cloneen' (*Proceedings of the Society of Antiquaries of London* III (1853–6), 13–14), but there is no such place on the Shannon in Co. Longford, and it should therefore most probably be taken as a misreading of 'Clooneen'.
38 Robert Henry Soden Smith, who died in 1890, was Keeper of the Art Library, South Kensington; according to *The Dictionary of National Biography*, LIII (1898), 115–16: 'In antiquarian pursuits he was equally interested in English and oriental pottery, and of both he formed large collections. He also paid much attention to the history and forms of finger-rings.'

CHAPTER 2
The Discovery and Dispersal of the Cuerdale Hoard

The Cuerdale hoard was discovered on 15 May 1840, and the following week it was claimed as Treasure Trove by the Duchy of Lancaster on behalf of Her Majesty the Queen. William Assheton, of Downham Hall, the owner of the land on which it was found, put in a counter-claim and, because he was abroad, the 'Inquisition' was delayed until mid-August, when the hoard was indeed found by the jury to be Treasure Trove. The Duchy then passed it to Edward Hawkins at the British Museum for detailed examination, prior to its distribution to both public institutions and private collectors. This dispersal did not begin until June 1841 but then continued for several years, to a total of over 170 recipients. It is thus essential to begin this account by trying to reconstruct the composition of the hoard as completely as is now possible and, for this reason, it is necessary to consider its history in some detail.

The sources

The contemporary printed sources relevant to the discovery and dispersal of the Cuerdale hoard can be listed briefly. These consist of: local newspaper accounts (in *The Preston Chronicle*, *The Preston Pilot; and County Advertiser* and *The Blackburn Standard*);[1] a letter from Joseph Kenyon, of Preston, to the Numismatic Society of London, dated 10 June 1840 (published 1841); an official Duchy report, dated 3 October 1840 (published 1842);[2] two learned papers by Edward Hawkins on the coins and non-numismatic material respectively (1843; 1847); and a somewhat later article by the Rev. Thomas Hugo (1853) who, within two years of the discovery, had become curate of the parish in which Cuerdale is located. The unpublished manuscript sources are both more numerous and more important in all respects.

A small bundle of nineteenth-century letters and some other relevant manuscripts were preserved by the Assheton family, but are now in the care of the Department of Prehistory and Europe in the British Museum; they are referred to below as the 'Assheton papers'. The Department holds no other contemporary Cuerdale documentation, other than a diary and notebook kept by Charles Roach Smith. The bound correspondence volumes for the period are preserved in the Department of the Middle East, but the only relevant letters to have been traced are four from Frederick Dawes Danvers, Clerk of the Council of the Duchy of Lancaster, written to Edward Hawkins.[3] The British Museum's Central Archive contains a letter from Danvers to Hawkins concerning the availability of the material for transfer to the museum from the Duchy's office (19 June 1841),[4] as well as the official records of its donation by Queen Victoria (10 July 1841).[5] The 'Minutes of the Department of Coins and Medals', vol. 1 (1838–56), 37, records the minute of the Committee of Trustees, for 10 July 1841, as follows:

> Mr Hawkins reported that the Chancellor of the Duchy of Lancaster had received her Majesty's permission to present to the Museum specimens of ornaments, ingots etc. and coins which were found at Cuerdale, and Mr Hawkins further reported that he had received the ornaments ingots etc. and about 1440 coins from the whole mass. Mr Hawkins was desired to lay a list of the acquisitions before the Trustees.

The Duchy of Lancaster archive contains eight bundles of largely unsorted legal papers, correspondence, coin-lists, receipts, etc., concerning the Cuerdale hoard, which together complement the official proceedings recorded in the 'Minute Books of the Court of the Duchy of Lancaster'.[6] The relevant section of the Duchy archive is designated '11/C/4: Treasure Trove'; in the sub-section labelled 'B. Cuerdale 1840', the bundles are numbered B1–8 and will be referred to below as B1, B2, etc., without further qualification. A small number of other Cuerdale-related letters and manuscripts are known to exist in other archives and private collections and are referred to as and when relevant to the following chronological account of the hoard's discovery and dispersal.

The fullest accounts published to date of the events immediately following the initial discovery of the hoard are those by Blunt (1983) and Graham-Campbell (1992a). The former concentrates on coin 'strays' or 'escapes' and in this respect is more detailed than what follows; on the other hand, it was written without access to the full range of sources outlined above, but see now also the further account by Gareth Williams (in Chapter 3).

The discovery (15 May 1840)

According to the 'Brief' prepared by John Teesdale, the Duchy of Lancaster's solicitor, for use at the inquest (B8, with additional punctuation):[7]

> The circumstances are as follow: On the 15th May last, about 6 o'clock in the evening, one of the several Labourers who were engaged in sloping down and repairing the embankment of the River Ribble, in the Neighbourhood of Cuerdale Hall near Preston, which had become partially undermined by the action of the water, was suddenly surprized by finding some pieces of corroded Metal in the Bank he had been cutting with his spade under the breast of it and, on letting down the upper part of the earth and filling it into a Wheelbarrow, these pieces of Metal were seen, and his spade afterwards struck among a quantity of loose silver coins some of which were thrown into the Barrow along with Soil.
>
> The man [Thomas Marsden] immediately proclaimed the discovery to his Companions who were at a short distance [there were 'others to the number of 10 in the whole'][8] and upon further examination a very large quantity of silver coins was found, besides some bars or Ingots of Silver, Chains, Armlets and Rings or Ring Money and more of the same sort of corroded metal [lead] which was ultimately supposed to have originally formed a box that had contained them. At first the finders began to fill their pockets with the Coins, but upon the arrival of the Hind [Jonathan Richardson] of Mr. Assheton, the Gentleman upon whose land the Labourers were at work, they were required to empty their pockets and give up all except one piece each which they were allowed to retain and the whole having been got together were taken up to

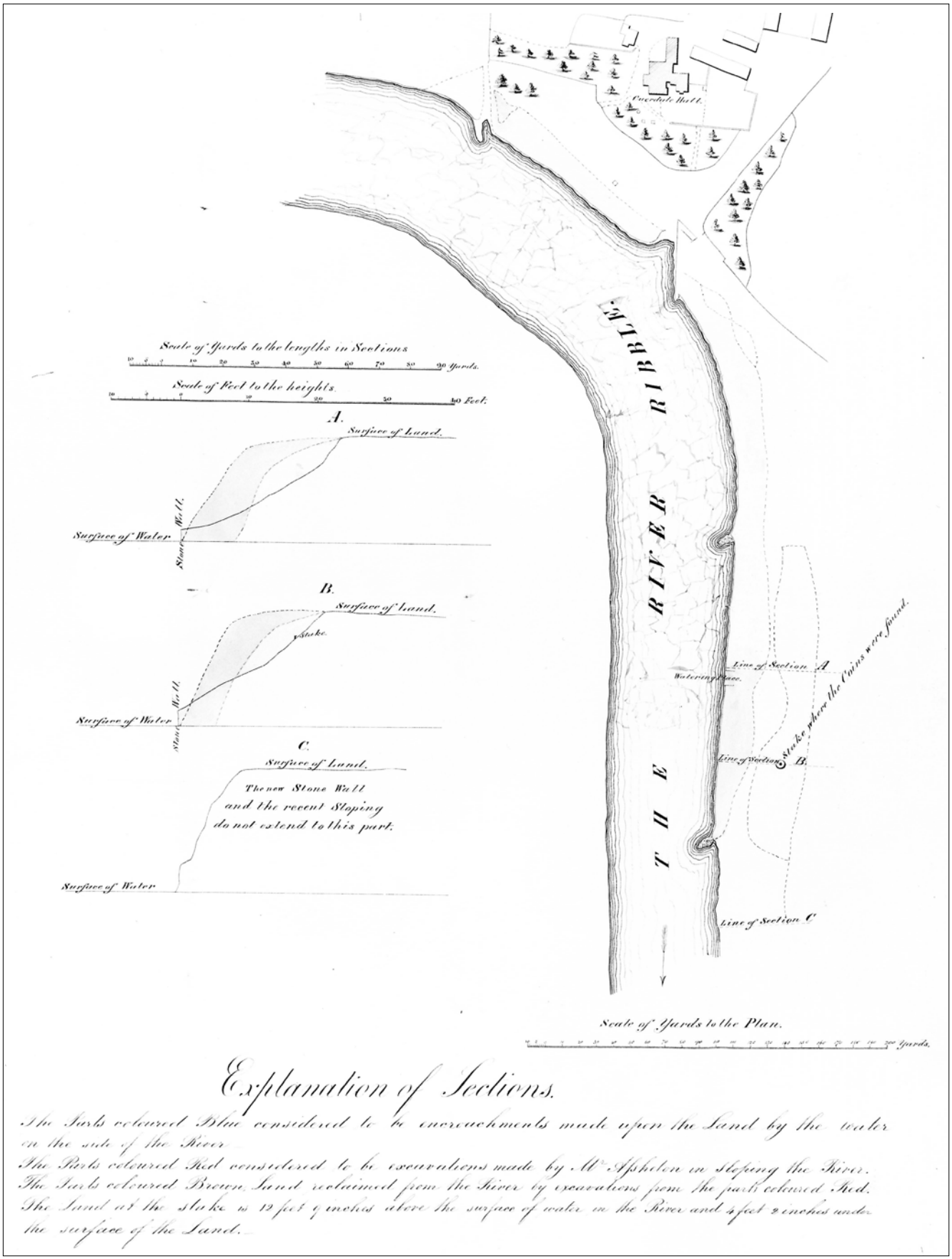

Cuerdale Hall.
RIBBLE
RIVER
TUBE
Scale of Yards to the lengths in Sections
Scale of Feet to the heights
A.
Surface of Land.
Surface of Water
Well
Stake
B.
Surface of Land.
Stake
Well
Surface of Water
C.
Surface of Land.
The new Stone Wall and the recent Staping do not extend to this part.
Surface of Water
Line of Section A
Waterway Race.
Stake where the Coins were found.
Line of Section B.
Line of Section C
Scale of Yards to the Plan.
Explanation of Sections.
The Parts coloured Blue considered to be encroachments made upon the Sand by the water on the side of the River.
The Parts coloured Red considered to be excavations made by Mr Appleton in Sloping the River.
The Parts coloured Brown Sand reclaimed from the River by excavations from the parts coloured Red.
The Sand at the Stake is 12 feet 9 inches above the surface of water in the River and 2 feet 2 inches under the surface of the Land.

Figure 2.1 The Cuerdale site-survey, prepared for the 1840 Inquisition (Duchy of Lancaster)

Figure 2.2 Cuerdale Hall (c. 1790), beside the eroding bank of the River Ribble, by W. Assheton (private possession)

> Cuerdale Hall. On the next day a wooden box was made for them and they were put into it, sealed up and deposited in Messrs Pidder and Fleetwood's Bank [*recte* Pedder, Fleetwood and Pedder] to await the necessary investigation.

This description of the discovery is based on the statements of five of the labourers involved, together with that by Jonathan Richardson who was in charge of the work as William Assheton's 'hind' or bailiff.

Work had been taking place on the river bank for several weeks before the discovery and Thomas Marsden's job at the time was digging and carrying earth to fill in the ground behind a new stone embankment. He was working with Thomas Horrocks and James Walne about 40yds (36.5m) from the bank when his spade struck 'something like lime – James Walne pushed his spade into it and said at first it was like Cockle shells but immediately swore it was money' (quoted from the statement by Thomas Horrocks). Marsden stated that he could not 'tell the depth of Earth that was above the Metal but it was covered at least 2 feet [0.6m] deep'. The exact location is indicated, by the 'Stake where the Coins were found', on the plan commissioned by the Duchy for the inquest and reproduced here by permission of the Chancellor and Council of the Duchy of Lancaster (**Fig. 2.1**).[9]

It was because Assheton was away in Italy that it fell upon Richardson to make himself unpopular with the men, by ordering them 'to empty their pockets to give up all except one piece'; nevertheless, according to the Rev. Thomas Hugo (1853, 333), one of the workmen succeeded in carrying off 'not less than six-and-twenty' in his boots. It was also Richardson who undertook the hoard's deposit, the following day, in the bank at Preston, where its box was to remain sealed until after Assheton's return in July.

After being wheel-barrowed up to Cuerdale Hall (**Fig. 2.2**), the treasure was laid out while:

> The adjoining ground was thoroughly searched; and all the additional coins found, together with more specimens of ornament and ingot, were taken to the hall, and added to the former. They covered the floor of one of the sitting rooms. (Hugo 1853, 333)

On the same night, everything was 'deposited in a tub of water, and well washed with a birch-besom' (Kenyon 1841, 63), before being 'placed in a room to await the sentence of the steward' (Hugo 1853, 333).

News of the hoard's discovery spread rapidly in the locality, as is shown by the statement of William Gilbertson, 'Chemist and Druggist' in Preston, for two of the labourers called on him that evening (15 May) and sold him two coins. Next morning he saw the hoard at Cuerdale Hall and was told that the coins, which he estimated numbered about 10,000, 'weighed 24 lbs [10.9kg] and the other articles 63 lbs [28.6kg]', before dashing into print on the same day in a local newspaper, *The Preston Pilot*, with a short article entitled 'Extraordinary Discovery of Coins', which was reprinted in the Saturday edition (23 May).

Another person to have examined the hoard before it was boxed up was Joseph Kenyon of Preston, who was a local coin collector,[10] in which context it is relevant to note that he subsequently appeared at the inquest as one of two 'expert witnesses' (the other being Thomas Glover of Manchester) concerning the hoard's composition. Kenyon (1841, 63) related in a communication to the Numismatic Society of London, dated 10 June, that:

> A portion of the coins and other antiques still remain at the Hall for the inspection of visitors, whilst some of these relics of by-gone days are stated to have found their way into the hands of private individuals; and this is not improbable, as several pieces, it is said, have, by diligent scratching, been gleaned from the soil since the bulk was removed to the bank.

Hindsight reveals this to have been a most disingenuous statement on Kenyon's part because the choice of coins for retention at Cuerdale Hall would appear to have been his own work, undertaken whilst making a fine selection for himself. As Blunt concluded (1983, 4):

> What emerges very clearly is that at least two people, who had access to the treasure prior to its surrender to the coroner for the inquest, not only made a careful examination of the coins, but picked out, in one case [Kenyon] for himself, in the other [Richardson] for his master, a number of the greatest rarities in the

> hoard, clearly identifiable by their types … [as well as] a number of the more ordinary pieces.

In fact, what actually seems to have happened on this occasion is that not two, but three parcels were extracted from the hoard: that to be kept at the hall 'for the inspection of visitors'; that removed illegally by Kenyon;[11] with a third (consisting of over 200 coins) being retained by Richardson himself (see below, p. 39).[12]

One amongst the early visitors to Cuerdale Hall, while 'a portion of the coins and other antiques' still remained on display there – that is before Assheton arrived back from abroad (see below, p. 25 and note 17) – was Samuel Hibbert, who then lived in York, but had a family estate in Cheshire. Hibbert filled two pages with (ink on pencil) full-scale drawings of eight Cuerdale objects, including the Carolingian buckle and mount (Assheton Collection: nos 145–6; Hawkins 1847, figs 99–100), two brooch fragments (AC: 143 and 148; Hawkins 1847, figs 95 and 64), and a lost silver finger-ring (**Fig. 2.3**).[13] These drawings are dated 'Preston 26 May 1840' and are the earliest known illustrations of any objects from the Cuerdale hoard. It is of interest that all but one can be recognised today as forming part of the Assheton collection, and it would seem, therefore, that this choice parcel was returned *in toto* by the Duchy to Assheton because of his 'honorable conduct' in having sent it to the bank, to join the rest of the hoard, immediately on returning to the Hall. Given that Hawkins also drew for publication (Hawkins 1847, figs 68–9) two finger-rings in the Assheton collection (AC: 111 and 109), it is possible that the lost finger-ring had already gone missing before Assheton's return.

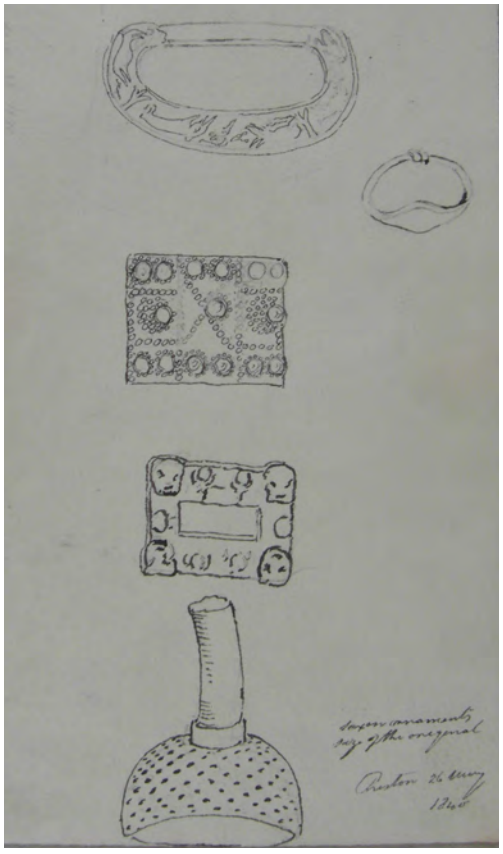


Figure 2.3 Drawing of Cuerdale ornaments by Samuel Hibbert, 26 May 1840

The Treasure Trove claim

The first that the Duchy of Lancaster seems to have heard of the Cuerdale hoard was a week after its discovery through a letter sent to Danvers by R.W. Hopkins (dated 21 May 1840); Hopkins was an attorney in Preston who served as Seal-Keeper (1827–59) and Clerk of the Crown (1831–44) to the Duchy.[14] They would have learnt of the find earlier if an anonymous informant, calling himself 'Edwardus Albert', had written about it directly to the Duchy instead of to the Lords of Her Majesty's Treasury in the belief that it was the latter who should have been claiming it as Treasure Trove. Although the Treasury received this letter on 18 May, they did not forward it to the Duchy until the 23rd, by which time Danvers had already sent instructions to Hopkins 'that the Treasure Trove is claimed by the Crown' (22 May: B1). Hopkins had reported that:

> I was dining yesterday with a friend in the County who shewed me about a dozen ancient Silver Coins, part of an immense number which were found in the neighbourhood on Friday last…some Labourers accidentally discovered a Leaden Box, very much oxidised containing Bars and other Articles of Silver weighing about 63 lbs and ancient Silver Coins of various kinds weighing about 24 lbs making altogether about 87 lbs avoirdupoise or nearly 100 lbs [39.5kg] of Silver in Troy Weight as I have been informed by a credible Person who saw the whole and he estimates the Coins at about Ten Thousand in number … this morning I have seen Nine more of the Coins in the possession of another Person.[15]

Hopkins wrote again on 26 May in response to questions from Danvers contained in a letter dated 22 May, including how William Assheton might be contacted (B1). He answered that, according to 'Mr. Forrest, who is Mr. Assheton's Solicitor', he 'was detained [in Florence] by the Illness of his Daughter, who was at the Date of Mr. Assheton's last Letter, unable to travel'. Forrest also passed on the information that 'an Offer has already been made to purchase the coins, for the British Museum; but that nothing will be done upon it'.

This interest shown by the British Museum may well have strengthened Forrest's determination that the hoard should be claimed by Assheton, and not simply surrendered to the Duchy, so that we find Hopkins writing again, on 28 May, to pass on the message that 'Mr. Forrest is anxious that all Proceedings should be suspended, until after Mr. Assheton's return', at a date which was then still uncertain, being dependent on his daughter's health (B1). Three weeks then passed before Danvers wrote again to Hopkins, on 15 June, to discover whether he had yet received any news concerning Assheton's date of return, for 'the desire here is, of course, that the enquiry should be conducted with every friendly feeling, and without any undue haste; but the Antiquarians are getting rather impatient.' (B1).

In the meantime the Duchy Solicitor (Teesdale) had been preparing his 'Case for the opinion of Mr. Atty. General' as to their Treasure Trove claim. This 'Case' is dated 20 June and the recommendation of the Duchy's Attorney-General, made on 24 June, was to proceed as soon as possible after allowing sufficient time for 'an interchange of letters' (B8). However, a letter from Hopkins to Teesdale, written on 8 July, indicates that Assheton had recently arrived back in England, although he had not yet reached Preston (B8).

The inquest was finally arranged for Saturday 15 August, to be held at the Bull Inn, Preston. Teesdale's next task, therefore, 'In the Matter of an Inquisition before one of the Coroners of

the County as to Treasure Trove', was to prepare a 'Brief in support of the Claim of Her Majesty in right of her Duchy of Lancaster' (B8). This contains the account of the discovery of the hoard quoted above, supported by the 'Proofs' which consist of the statements made by the witnesses to be called and the authorities under which the claim was being made. It also involved the commissioning of William Miller, a land-surveyor of Preston, to survey and report on the location of the find, including full details of the navigability of the Ribble and of the repairs to its embankment. It is a copy of his part-coloured plan that is reproduced here (**Fig. 2.1**; cf. **Fig. 2.2**).[16]

Meanwhile Assheton arrived home, and it was taken as:

> Proof of his very honorable conduct that having learned in reaching Cuerdale Hall that small portion of Treasure subsequently found remained there, he had it taken to the Bankers and added to the bulk before placed in Deposit.[17]

The Duchy was well aware that there remained some Cuerdale material in general circulation; not only were they in possession of the information provided by Hopkins (as quoted above), the matter was one of general knowledge, as reported in *The Preston Chronicle* on 23 May 1840:

> Some odd pieces of the booty have found their way into the hands of a few individuals, and are, of course, highly treasured. Indeed, the numismatic collectors and connoiseurs [*sic*] are quite in a *furor* about the matter, and the spot where the treasure was found has, since the discovery, been more zealously scratched than any dunghill in the best populated poultry yard.

One such private collector to have laid his hands on some of these early 'escapes' was the Rev. Joseph Martin, rector of Keston in Kent, who wrote to John Lindsay of Cork, in April 1842, that 'coins were first sent to me in June 1840' (Shiel 1984, 56).

An incomplete draft of a Duchy letter (B8) does, however, indicate that it was not considered worth trying to collect up this material on the grounds that (a) it would prove impracticable, and (b) the amount was too small to worry about. The latter was also the opinion of Assheton who wrote on 19 August, after the inquest, to Lord Holland (B1) that 'some loss there has been but I believe it to be comparatively very small'.

One person who did, however, set about collecting up material was the Rev. Thomas Hugo, who managed to purchase locally a 'good series' of the coins (there were thirty-seven in his sale), 'including most of the pieces allowed to be retained by the workmen', as well as a silver arm-ring (**1:885**) and an ingot fragment,[18] but by the time of writing he believed that the local supply of coins was 'totally exhausted', none having been offered to him for several years despite his offer of high prices (Hugo 1853, 333). Some of the pieces acquired by him may well have included material found subsequent to the 'zealous scratching', described above, because of the following information contained in a manuscript account of a visit to the find-place, in 1841, by J. Lee Warner, accompanied by drawings of two coins (an Alfred and a St Edmund Memorial):[19]

> In the month of May. 1841. I visited the spot with Mr Richardson. He informed me that after heavy rains coins were still to be picked up on the surface. He had also made a drain, during the last month {April.1841.} through that portion of the new made bank, which had been filled in with the barrowed soil from the vicinity of the chest after it had been disturbed in the first instance. On this last occasion {viz. that of making the drain} the Alfred above figured was discovered.

However, to return to the chronology of the main proceedings: when Edward Hawkins learnt that Assheton had reached home he wrote a long letter to one of his neighbours, James Thomson, which was clearly meant for Assheton's eyes. This communication, dated 6 August 1840, was indeed passed on and it has been preserved among the Assheton papers. Hawkins was concerned about the outcome of the imminent inquest and, if Assheton were to be awarded the treasure, he hoped to be allowed:

> To have a full and free examination of the whole mass coins and other objects without any diminution, and at the museum where alone I could proceed satisfactorily, with all my aids and assistance at hand.

Hawkins went on to explain at some length 'how valuable a source of information is a treasure of this kind', stating that he had already seen some of the 'escaped' pieces, before repeating the British Museum's offer:

> After examination I hope he [Assheton] will allow the Museum to come to some terms for retaining such pieces and antiquities as they may desire, and I shall then petition for other collectors to have the opportunity of enriching their cabinets with choice specimens before all are dispersed.

In the event, however, the inquest was to decide in favour of Her Majesty the Queen, in right of her Duchy of Lancaster, as Treasure Trove.

The 'Inquisition' (15 August 1840)

The formal 'Inquisition' taken by the coroner at the Bull Inn, Preston, on 15 August in the fourth year of Queen Victoria's reign, is preserved in the Duchy archives (B3), duly witnessed and sealed (illustrated in colour in Philpott 1990, 33; Graham-Campbell 1992a, fig. 1.8). It contains a summary account of the hoard's discovery and of its contents, recording the decision that it had been 'seized into the Hands of Her Majesty in right of Her Duchy and County Palatine of Lancaster'. However, its list of contents bears only a slight relationship to the actual contents as reported at the inquest, dealing instead in notional figures:

	8,000 coins weighing 19lbs	
	1,000 bars	
	1,000 ingots	
and	1,000 pieces of silver weighing 53lbs 9½oz	
	1,000 chains	in all
	1,000 rings	weighing 6lbs 9½oz
and	1,000 other articles of silver	

There is a majestic ring to these legal exaggerations, but it is in fact not only the totals that are completely wrong in this document but the weights as well, as is made clear in a letter sent later the same day to Hopkins, by Thomas Glover of Manchester (B1), who had 'assisted in weighing the coins and specimens of Silver, and [who had] made himself generally useful' (B2):[20]

> In a conversation with Mr. Gilbertson this Evening, I called his attention to the great discrepancy in the Weights of the Coins and other Silver found at Cuerdale, as weighed by us, compared with the published statements in the papers at the time they were found, The weights used by us were furnished by Mr Fleetwood who, in answers to my question more than once repeated, told me they were Pounds Troy. Accordingly the Weights given at the Inquest were given in as Pounds Troy. I have made a minute examination of

> the Weights and find that what Mr Fleetwood called a Pound Troy was really 16 ounces troy so that the weights furnished at the inquest are less than the real weights by one third – that which was called 12 oz being in reality 16 ounces, troy. As in consequence of this apparent deficiency an imputation may be cast upon innocent parties, I should be glad if you would take an early opportunity of correcting any erroneous impression which may have been formed.

Converted back into ounces troy, as in *The Blackburn Standard* report on the inquest (19 August 1840), the original figures were:

coins:	3040z
16 'marks':	1320z
smaller ingots:	7250z
ornaments:	1030z
	12650z

This gives a total weight of approximately 105lbs troy (as opposed to *c.* 79lbs in the 'Inquisition'). The weight for the bullion amounts to 9610z, but this was subsequently found to be 9740z 10dwts (list in B8), which is the weight, equivalent to 30.46kg, given in both the Duchy's 'Short Report' (B3) and the British Museum's receipt (B4; see below, p. 34 and note 27). There is no record of the coins having been reweighed by the Duchy.

Teesdale had to produce an account of the inquest and particulars of the treasure for 'the Right Honorable the Chancellor and Council of Her Majesty's Duchy of Lancaster' in the form of 'The Solicitor's Report' which was completed on 3 October and read to the Court on 5 October 1840.[21] However, the events of the day can be better appreciated from the report published on the front page of *The Blackburn Standard*, on 19 August 1840, which is worth quoting *in extenso*:[22]

> INQUISITION ON THE COINS FOUND AT CUERDALE
>
> Last Saturday, an interesting inquiry took place at the Bull Inn, Preston, before John Hargreaves, Esq., Coroner for the Blackburn Hundred, and a respectable jury of sixteen persons, 'touching the finding and discovering of certain silver coins and other things, alleged to have been discovered in the township of Cuerdale.' Thos. Starkie, Esq., Q.C., officiated as Assessor for Mr. Hargreaves. The inquiry was conducted under the provisions of a statute of Henry the First, which directs that when any treasure is found, the Coroner shall summon a jury to inquire into the circumstances of the find, and to ascertain whether the treasure does or does not belong to the Crown. A large degree of interest was excited on the occasion, inasmuch as it was known that the coins, &c., (which were found on the 15th of last May, and many particulars concerning which have already appeared in our columns,) were of considerable value as well of great rarity, and that two parties had put in claim to their ownership, viz., the Queen, in right of her Duchy of Lancaster, and William Assheton, Esq., of Downham Hall, near Clitheroe, as lord of the manor of Cuerdale, and owner of the land on which the discovery was made.
>
> The claims of the respective parties were supported before the Coroner's Assessor by gentlemen of the long robe, Thomas Flower Ellis, Esq., Attorney General of the Duchy, and John Teasdale, Esq., Solicitor-General of the Duchy, appearing on behalf of her Majesty, and John Addison, Esq., on behalf of Mr. Assheton. We attended and took copious notes of the proceedings, but as there was a great deal of very dry matter, which would be anything but interesting to the generality of readers, we think it better not to occupy our columns with details. Suffice it, therefore, to say the learned Attorney-General contended, with great skill and eloquence, that the coins, &c., were treasure-trove, i.e. 'money or coin, gold, silver, plate, or bullion, found hidden in the earth, or other private place, the owner thereof being unknown,' and that, therefore, they belonged to the Crown, or rather, in the present case, to the Duchess of Lancaster as a grantee under the Crown: whilst, on the other hand, Mr. Addison ingeniously contended that there was no evidence or fair grounds for the assumption that the coins had been 'hidden;' that probably they had been 'abandoned,' or washed ashore and covered with sand at a period when the Ribble was supposed to have been navigable even so high as Ribchester; and that, as the 'hiding' was essential to the establishment of the title of 'treasure-trove,' the crown had no claim to the property, which of right belonged to the lord of the manor. Various authorities were quoted, and many witnesses examined as to the circumstances of the find, the encroachments of the river and alterations in the banks, &c.
>
> … after a long investigation the jury retired to consider their verdict, and upon returning into court, having been absent about ten minutes, the foreman said, 'we find the articles are the property of her Majesty, in right of her Duchy of Lancasters, as treasure-trove.'

This report also appeared, with minor stylistic alterations, in *The Preston Chronicle* for 22 August 1840, although with the addition of the names of the jurors and the information that, after they 'were sworn, they went to view the place where the treasure was found; and, during their absence its contents were looked over by witnesses'. The *Chronicle*'s version ends, however, with an additional paragraph, of a speculative nature:

> It will become a subject of interest to know what her Majesty will be advised to do with these valuable reliques. From what fell from the learned Attorney-General we are induced to hope that a considerable portion of them will be distributed amongst public collections in this county.

This was indeed to be the eventual outcome, but such gifts were only part of a carefully considered and complex pattern of distribution to numerous collections, both public and private, in Britain, Ireland, France, Germany and Denmark, as documented in the Duchy archive.

'Treasure Trove at Cuerdale'

Three weeks later, at the beginning of September, Hawkins wrote to the Duchy expressing his understandable impatience at not having yet been able to get his hands on the hoard (B1), but as it turned out he had another month to wait. For, after the inquest, it was John Teesdale's responsibility, as noted above, to compile a report on the day's proceedings, together with William Hardy, for the Chancellor and Council in advance of the meeting of the Court of the Duchy of Lancaster to be held on 5 October 1840, when their report was presented alongside the hoard itself, together with the 'Inquisition'.[23] This was the first meeting of the Court at which the matter of the 'Treasure Trove at Cuerdale' was considered – and it was unusually well attended, no doubt for the novelty of the occasion.[24]

The Court considered a letter written by Assheton to Lord Holland, as Chancellor of the Duchy of Lancaster, on 19 August when he was on the point of returning to Italy. He asked for a reward for his bailiff, Jonathan Richardson, for his praiseworthy conduct in securing the treasure and for himself 'some specimens of all coins etc., of which there are duplicates'. It was ordered that Richardson be presented with 'the Sum of £20, and a Silver Coronation Medal of Her Majesty' and that 'a letter be written to Mr. Assheton conveying the acknowledgements of the Chancellor and Council for his very candid, courteous and honorable conduct' and stating that they would be 'recommending Her Majesty to afford him specimens

of all the coins &c. of which there are Duplicates'. Danvers despatched these letters on 9 and 6 October respectively, the latter reaching Assheton in Florence on the 12th (Assheton papers).

It was also ordered that the treasure should be arranged for display to Her Majesty 'with a brief statement to be prepared setting forth the number of Coins – and the value of the Treasure'; that Edward Hawkins of the British Museum 'be invited to inspect the Treasure'; and that 'a copy of Mr. Hardy's paper on the subject with any alterations that he may consider satisfactory and appropriate, be furnished to the Society of Antiquaries'.[25]

The Duchy was already being besieged by requests for coins from public institutions and private collectors so that a committee was appointed 'to report as to the Societies and Collectors to be considered in distributing specimens of the Coins, and to make any remarks that may occur to them as to the extent or mode of distribution'. This consisted of: the Attorney-General, the Receiver-General, the Clerk of Council, the Solicitor and William Hardy, as Clerk of the Records.[26]

The only piece of Cuerdale business at the next meeting of the Court, on 8 October 1840, was to give permission to Hawkins to have the treasure for 'minute examination' at the British Museum in order 'to report upon their state and value', on condition that he give 'a written acknowledgement of their receipt, and an undertaking to return them as soon as the examination shall have been completed'.[27] This seems (not surprisingly) to have proceeded rather more slowly than the Duchy anticipated because Danvers reported to the Court, on 17 November 1840, that 'Mr. Hawkins of the British Museum is pursuing his examination of the Coins and other Treasure, which he has represented will still occupy a considerable time'. In fact, the hoard was not to be ready for distribution until June of the following year, but even then Hawkins was still hard at work, writing to the Duchy (B2), on 16 June 1841, that:

> I have not yet completed my labours … on the French portion of the coins. These coins are so new and so important to the French numismatists and even historians, that I feel anxious to possess the Bibliotheque with every variety of any apparent importance. I am extremely sorry thus to encroach on Lord Clarendon's indulgence.

Also on 17 November 1840, Danvers reported to the Court that Hawkins had 'expressed an opinion that the best way of submitting them to Her Majesty's view would be by a selection of certain specimens'. There is no record of any such display having taken place,[28] but the undated 'Short Report' prepared for this purpose has been preserved (B6). This consists of an explanatory paragraph, a summary list of the 6,727 coins (annotated with the numbers of coins selected for the royal collection) and of the bullion, with a total valuation of £285.[29] It is possible, however, that Queen Victoria and Prince Albert were shown the Cuerdale hoard during the visit made by them to the Museum on 27 March 1841, which included the Medal Room, although such is not mentioned in the account of their tour recorded by Sir Henry Ellis in his diary.[30]

The matter of Cuerdale was brought back to the meeting of the Court on 19 June 1841 ('Minute Book: 1837–41', 392–3):

> The examination and assortment of the Cuerdale Coins &c. having been completed those that remain after deducting the Coins selected by the Queen for Her Majesty's Private Collection, are laid before the Board.
>
> The Court take into consideration the various applications for Specimens, as well as the claim of Public Institutions, and a List prepared with the assistance of Mr. Hawkins, the Keeper of Antiquities at the British Museum cont. the Names of the Institutions and of private collectors and Individuals, with the number and description of Specimens proposed to be presented to each, (including the extensive collection to be deposited at Her Majesty's gracious commands in the British Museum and the Duplicate and rare specimens promised to Mr. Assheton on whose Estate the Treasure was discovered) is submitted and approved.
>
> Whereupon it is ordered that the distribution be forthwith made, leaving the appropriation of such Coins and Pieces of Silver as are still undisposed of for future consideration.[31]

It was also decided that Assheton's selection should be presented to him in a cabinet, together with a gold Coronation medal, and that another cabinet should be made for those presented to William Hardy.[32]

Just over a year had, therefore, elapsed since the hoard had been discovered before its dispersal began, when Danvers wrote, on 19 June 1841, two letters to Hawkins (one concerning the Queen's gift to the Museum, and the other of coins to himself), and another to Assheton. The letter to Assheton (the original of which is preserved among the Assheton papers, with a copy in B2) was accompanied by a list of 179 coins and a summary of the silver bullion to be given to him (including one of the 'silver mark' ingots). The letter includes the request that:

> If you should have any specimens not included in this List and would have the goodness to state what they are, places shall be reserved for them in the cabinet.

Assheton replied on 22 June from Southampton (B2), writing that he was 'very sorry owing to the illness of my family not to have been able since I saw you to have got at the Coins which you allude to'. He went on to suggest, however, that he might deliver them to Hawkins so that 'if perchance there shd. be any he might wish to retain for the British Museum he might do so'. As a result, by arrangement with Danvers, the coins in question arrived at the Museum later that month so that Hawkins might inspect them (B2).

The rosewood cabinet for Assheton was subsequently made to house 261 coins in four drawers, of which his Duchy allocation amounted to 180 (see below), with four further drawers to accommodate the bullion (**Fig. 2.4** and **Cat. Fig. 1**). Amongst the Assheton papers are two sheets concerning this cabinet, one related to the planning of its trays and the other seemingly representing an inventory of the eventual contents, listing 261 coins and 147 items of bullion, the former total altered to 263 and the latter to 149 (both in pencil).[33] The contents of the bullion drawers are listed as follows:

No	1 drawer	65 Bars and Ingots &c. fitted in
	2 - Do:	15 Pieces of ornaments fitted in
		22 Pieces of Do: loose
	3 - Do:	33 Pieces of Do: fitted fitted in
		11 Do: loose
	4 - Do:	8 Pieces of ornaments [altered from 6]
		5 Ingots, &c.

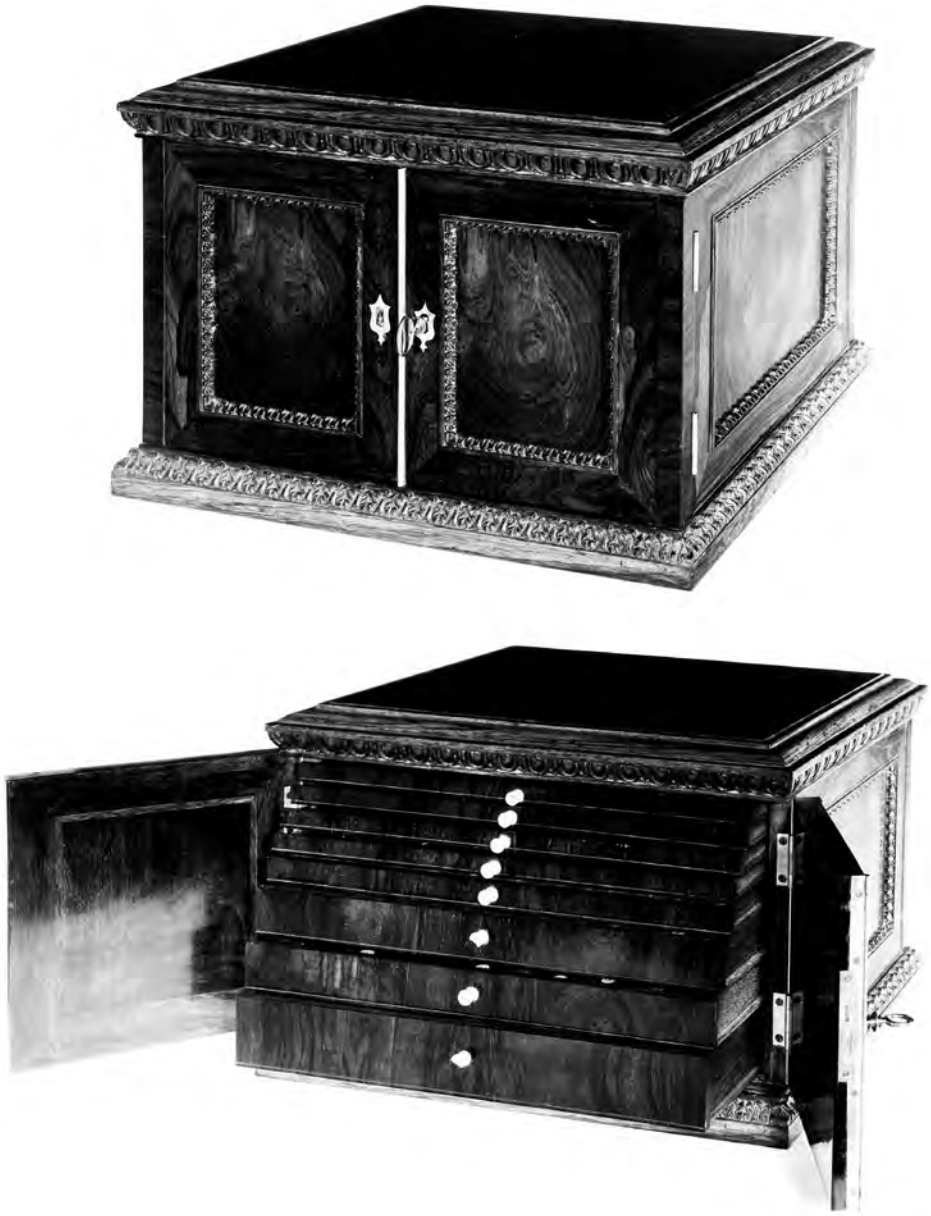


Figure 2.4 The Assheton rosewood presentation cabinet (1840)

Registration of the British Museum's bullion was not completed until 1842,[34] although Hawkins had previously prepared a detailed paper on the Cuerdale coins that was delivered by him to the Numismatic Society of London in two parts, on 25 November and 23 December 1841. This was first printed for Hawkins in 1842,[35] but was not in fact published until 1843, in the *Numismatic Chronicle,* when its appearance doubtless stimulated further requests for coins from collectors, given that such continued to flood into the Duchy. Hawkins' account of the bullion was completed in 1846, as a paper read to the Archaeological Institute of Great Britain and Ireland, which appeared in print the following year, although the drawings for it had presumably been prepared in 1840/41 because its illustrations include some material not retained by the Museum, but allocated to Assheton.[36]

Distribution

The records

The primary evidence for the Duchy of Lancaster's distribution of the Cuerdale hoard, on behalf of Queen Victoria, consists of two detailed lists of names with numbers of coins allocated (transcribed below in Appendix 3), with occasional – but inconsistent – annotations regarding non-numismatic material (B8). The first list (List 1) is in fact two separate lists containing the same names, both headed 'Cuerdale Treasure Trove', but one is devoted to the 'Distribution of the Coins (Continental) up to the 3rd September 1841' and the other to the 'Distribution of Anglo Saxon Specimens of Coins up to the 3rd September 1841'. The second list (List 2) includes both Anglo-Saxon and continental coins, being headed 'Cuerdale Treasure Trove. Distribution of the Coins continued from 3rd September 1841 to 6 July 1846'. Together these two lists contain the names of 41 institutions in Britain, Ireland, France, Germany and Denmark, and 122 individuals.[37]

To these totals must be added one further institution (Colchester Museum) and seven individuals to whom donations are recorded separately in the 'Minute Books of the

Duchy of Lancaster' between 19 November 1846 and 12 February 1853 (see Appendix 3, no. 3). In addition, a search of the Duchy correspondence bundles relating to the hoard revealed the names of two further recipients who are not otherwise recorded on the distribution-lists or in the 'Minute Books'. The absolute total for the Duchy's recorded distribution of the Cuerdale hoard thus amounts to 173 different destinations (or 174, if the coins retained at that time in the Duchy office are to be counted as well), consisting of 42 institutions and 131 individuals (including Queen Victoria).

The first of the latter two recipients was Lord Campbell who became Chancellor of the Duchy on 6 July 1846. A note dated 22 July 1846 records that he received twenty-three coins (twenty Cunnetti and three Charles the Bald), together with 'specimens of the Silver Bars – or Ingots'. The second name is that of Arthur Hansbron, Deputy Keeper of Lancaster Castle, whose request was dated 4 November 1853, although his letter of thanks (written on 21 January 1854) acknowledges only a 'gift of coins'. No record of any subsequent request or nineteenth-century donation has been traced; indeed, no Cuerdale business appears to have come before the Court in the period covered by the three 'Minute Books' for 1854–59.

The fate of what remained of the Cuerdale hoard, as well as of what was left of other nineteenth-century hoards claimed as Treasure Trove by the Duchy, is recorded by Sir Robert Somerville:

> A cabinet of selections was in the Duchy office up to the war of 1939, during which it was left in the office; some may have been stolen: what survived was sent after the war to King George VI's well-known collection.[38]

Eleven coins from this transfer, in 1947, are all that now remain of the Cuerdale hoard in the Royal Collection at Windsor Castle,[39] the remnants of those selected for Queen Victoria having been acquired by the British Museum from King George V in 1920 (Archibald 1985). By then, these amounted to a total of only eleven out of the original parcel of 149 coins, the others having largely vanished without trace, except that Prince Albert, in 1841, is known to have sent some to his father in Gotha, where there is still to be found a parcel of nineteen Anglo-Saxon coins in Gotha Museum (Steguweit 1989; Blackburn 1990).

The information concerning the eleven Cuerdale coins remaining at Windsor today is as follows:

> The remnant contained a quantity of 'Cunnetti' pennies, Islamic dirhams, a Frankish denier and a number of illegible items. Of the 'Cunnetti' pennies, five of the best examples were retained for the Royal Collection and the other items that were all in poorer condition, were disposed of. Five of the better dirhams were also retained, as was the single Frankish denier. In all, the total number of items before the disposal was 117 pieces.[40]

Some of the 106 pieces disposed of from the Royal Collection may have ended up in the British Museum, in the form of the 'Cuerdale sweepings' bequeathed by T.W. Armitage to the Department of Coins and Medals in 1956, which are known to have been in his possession by 1952.[41]

The coins

List 1 (Appendix 3, no. 1) begins with two columns that give the totals of the coins by reign and/or type according to 'The numbers in Duchy List' and 'The numbers in Mr. Hawkins' List'. The Duchy List contains 2,737 Anglo-Saxon and 3,965 continental coins which gives a total of 6,702 to which must be added the 25 'oriental' specified in the 'Short Report' to arrive at the grand total of 6,727 coins, as given in both the 'Short Report' and the Museum's receipt signed by Hawkins. Hawkins himself, on the other hand, had arrived at a total of 2,714 Anglo-Saxon and 3,787 continental coins making a grand total of 6,501 (exclusive of the 'oriental' element); it remains unclear how this discrepancy of 201 coins is to be accounted for at this stage. Hawkins' final total (1843, 4) amounted to 6,765 coins 'to which must be added some so blundered and unintelligible, that they are not included in the above enumeration', although this was before he had seen a further total of some 207 coins which had been retained by Richardson (as described below).[42]

It is important to note that the number of 'continental' coins in these lists is greatly inflated by the inclusion of some 3,000 coins since recognised as being the issues of the Vikings in York, notably those of Cnut with the enigmatic 'Cunnetti' reverse, whereas the 'Anglo-Saxon' coins include 'the St Edmund Memorial issue, struck in East Anglia and probably also in the Danish-controlled areas adjacent, of which there were over 1,800 examples in the hoard' (Archibald 1992, 16).

As noted, there are no details in the main Duchy records of the distribution of the oriental or 'Kufic' coins, although some were allocated to the British Museum and others to Assheton, presumably in his case under the heading of 'sundries' (Lowick 1976).[43] On the other hand, one is noted on a receipt from Mr James Fenton, dated 26 January 1843, together with twelve Cunnetti and two of Charles the Bald, but only these fourteen coins were entered on List 2.[44]

The Duchy's distribution-lists include only those coins not previously selected for the British Museum, the main part of List 1 beginning with the four largest private allocations: 'Her Majesty' (149), the fate of which was described above; Assheton (180); Hawkins himself (137), whose Cuerdale coins do not seem to have featured in any of his three sales; and 'Mr. Cuff', described as 'an eminent collector' at the Bank of England (106).[45] All the donations to other individuals consisted of fewer than one hundred coins, and the only institutions to be favoured with larger allocations were the Bibliothèque du Roi in Paris (195),[46] and the Bodleian, Oxford (137).[47] The next largest donations to institutions, those consisting of over sixty coins, were to: the Numismatic Society of London (95);[48] the Ashmolean Museum, Oxford (93);[49] the Hunterian Museum, Glasgow (82);[50] the Danish Numismatic Museum (79);[51] the Royal Dresden Museum (70);[52] and the Manchester Society of Natural History (70).[53] The only individuals in the same category were M. Cartier of Amboise (80),[54] the Earl of Clarendon (72),[55] who had succeeded Lord Holland as Chancellor of the Duchy on 31 October 1840,[56] and Charles Richard Fox, a keen numismatist (69 coins, in two separate parcels) who, as the Duchy's Receiver-General, was a member of the distribution committee.[57]

In practice, these figures do not always agree exactly with those that can be discovered in other ways, but overall they may be considered to provide an accurate enough picture of the distribution. For instance, Assheton was originally offered 179 coins in his letter from Danvers, of 19 June 1841 (B2 and Assheton Papers), although actually allocated 180 according to List 1. The Numismatic Society of London acknowledged the

donation of ninety-six coins, having originally been allocated ninety-five (according to the same list),[58] and the Society of Antiquaries of Newcastle on Tyne were allocated twenty-one coins, but their *Donations Book* lists twenty-nine coins received from the Duchy (3 August 1841), given the addition of 'Sundrey others – 8'.[59]

It is perhaps not surprising then that the final figures do not tally exactly with the early ones. List 2 (Appendix 3, no. 2) makes it clear that the last 'Anglo-Saxon' (St Edmund Memorial) coins available for distribution were those given out on 30 April 1842 ('Minute Book: 1841–45', 79). A year later, on 9 March 1843 (*ibid.*, 170), it was noted 'that besides the Cunnetti there are only a few Specimens of the Coins of Charles le Chauve left, which are being reserved for Public Institutions', before recording that the last two Charles the Bald were those given to the Portsmouth and Portsea Literary and Philosophical Society, together with twenty Cunnetti, on 10 April 1843 (*ibid.*, 177). There is, however, a separate single sheet that also covers the distribution during the period from 17 January to 10 May 1842 which corrects these totals, as at 14 February, increasing the number of St Edmund Memorials by nine and those of Charles the Bald by four. In fact, List 2 includes the donations of the additional St Edmund Memorial coins, but leaves the four extra of Charles the Bald unaccounted for. This therefore explains how there came to be three available to give to Lord Campbell on 22 July 1846, as noted above, with one being left in the Duchy Office for ultimate transfer to King George VI in 1947.

The figures on both lists tally for Cunnetti, leaving 259 undistributed when List 2 was closed on 6 July 1846, from which total Lord Campbell's 20 have to be deducted.[60] Another seventy to eighty Cunnetti can be accounted for by donations recorded subsequently so that, by 1854, there can have been scarcely more than 160 Cunnetti remaining in the Duchy Office, together with the single Charles the Bald (and some Islamic dirhams),[61] of the 6,500 Cuerdale coins at its disposal when their dispersal had begun thirteen years earlier. The situation regarding the non-numismatic material is not so clear, as will be described in the next section.

The decreasing variety of the coins available for distribution during 1842–3 has already been noted, and so it is of interest that, on 22 April 1844 (B3), Danvers wrote in a letter to the Rev. Henry Christmas:

> With regard to your suggestion of supplying the Biblioteca Nacional at Madrid with some Coins and Bars, the Chancellor objects to transmit any of those now remaining undisposed of, as they are all of the most common description.

It is hardly surprising therefore that, after the closure of List 2 in July 1846, there are only eight further donations of Cuerdale coins recorded in the 'Minute Books' as having been approved over the next seven years (Appendix 3, no. 3). During the rest of 1846 and in 1847, the Court approved small gifts of coins to five individuals on four occasions, including Thomas Walford who was appointed the Duchy's Solicitor, following Teesdale's death on 21 December 1845 ('Minute Book: 1845–49', 120, 147, 186 and 193). No further distribution was apparently considered by the Court until 7 April 1851, when 'the Revd. Edwd. M. Hearn of Hurst Green Parsonage, Blackburn' was allocated six Cunnetti, as was 'the Revd. Tullie Cornthwaite of the Forest, Walthamstow', together in his case with 'a few Specimens of the Silver Ingots' ('Minute Book: 1849–52', 297), perhaps because he was a personal friend of Danvers.[62]

The next four 'Minute Books', covering the period from 1852 to 1859, contain one final piece of Cuerdale business, on 12 February 1853, when 'the Revd. William Greenwell of Newcastle upon Tyne' was allocated 'some Specimens of the remaining Coins', in response to a request from him ('Minute Book: 1852–54', 191).

The bullion

No attempt seems ever to have been made to count the non-numismatic material in the Cuerdale hoard, other than the so-called 'mark' ingots. As reported in *The Blackburn Standard* (19 August 1840):

> There are sixteen large bars or ingots averaging 6¼ oz [*recte*: 8¼ oz] and weighing in the aggregate 132oz. Each of these has a cross upon it, and they are said to be marks, being of the value of 160 of the smaller coins.

These ingots are distinctive both for their large size and sub-rectangular form, but only seven out of the eleven surviving examples (**1:1–11**) are actually cross-marked. However, sixteen can only be regarded as the minimum number of 'marks' in the hoard, even though this was the total received by the Duchy (see 'Short Report', etc.), on the grounds that there would seem to have been at least a couple of 'escapes' (see pp. 168–9). It is certainly the case that the Assheton collection had, by the twentieth century, come to contain four 'marks' despite the fact that only one had formed part of the Duchy's allocation (**Cat. Fig. 1**; and see note 82).

Two 'marks', one plain (**1:1**) and the other with a cross (**1:10**), were included among the 'historical series of the Ingots' given to the British Museum, as registered under 11 July 1841,[63] together with 'Articles of Curiosity', concerning which Danvers wrote to Hawkins on 22 June 1841 (B2):

> Should it appear on further examination that there is a greater number of the Silver Ornaments &c. than are wanted by the British Museum, you will be so good as to return the overplus. I mention this, because I think you said that this might be the case after a more minute examination.

There is no record of any such material having been returned to the Duchy and, when registration was completed, the Museum's total amounted to nearly 900 items of bullion (see p. 165).

The only other reference in the Duchy records to the donation of ornaments (as opposed to ingots) is to Assheton who was allocated 'Specimens of all the Coins and of the other Articles of Curiosity, of which there are duplicates', as stated in his letter from Danvers on 19 June 1841 (B2). Once again, however, the 'Articles of Curiosity' are not enumerated, apart from one 'mark' (but see above, p. 27, for the list of the contents of his cabinet which gives a total of 149 pieces of bullion, even if some of this number might already have been in his possession).

Between them, therefore, the British Museum and Assheton received three out of the sixteen available 'marks', but the disposal of only seven others is accounted for in the Duchy records, although the whereabouts of eleven are known today,[64] together with a forgery.[65] It is thus evident that the Duchy records cannot provide a complete picture of the dispersal of the non-numismatic contents of the Cuerdale

hoard, perhaps not even amongst the Duchy's own officers, although the probable first destinations of another five 'marks' may be surmised (so possibly accounting for the immediate destinations of fifteen in all).

Three members of the distribution committee, Ellis, Fox and Teesdale, are known to have allocated themselves a 'mark' each, so it seems reasonable to suppose that the other two, Danvers and Hardy, would also have received a 'mark' apiece along with their coins. The individual pedigrees of these particular 'marks' are, however, unknown in relation to those that exist today. The Fox sales at Sotheby's, in 1848, 1852 and 1856, did not include any ingots, although there were three Cuerdale coins in the earliest of them (lots 256–8); there was no Cuerdale material in the sale which followed his death in 1873 (Sotheby's, 22–23 June 1874). The (1886) Ellis sale consisted only of medals and no sales for either Danvers or Hardy have been traced. Likewise, the fate of the 'mark' allocated to Teesdale is unknown, although (after his death in December 1845) his son had fourteen of his twenty-seven Cuerdale coins mounted in gold, in contemporary 'archaeological style', as a necklace for his wife (**Fig. 2.5**).[66]

The same suggestion concerning the allocation of 'marks' applies to the Vice-Chancellor, Francis Holt, in addition to which it seems almost inconceivable that the Earl of Clarendon, as Chancellor, did not receive at least one 'mark' and/or other ingots, together with the seventy-two coins referred to above, even if there is no record of any such allocation (although see below (p. 171), for the suggestion that such might be represented by the greater part of the Cuerdale parcel acquired by Sir John Evans and now in the Ashmolean Museum, Oxford). At any rate, the gift of 'marks' seems to have become a standard custom with his immediate successors – at least while

Figure 2.5 The Teesdale necklace of Cuerdale coins (private possession)

supplies lasted – because Sir George Grey, who succeeded Clarendon on 23 June 1841, received two 'marks', together with thirty-two coins, followed by Lord Granville Somerset, who succeeded him later the same year, on 3 September, when he was given a 'mark', along with forty-three coins.

Another likely recipient of a 'mark', during this initial phase of the distribution, is J. Dodsley Cuff because his sale, in June 1854, contained not only seventy-two Cuerdale coins, but also 'A Mark, or Ingot, *of Silver, found at Cuerdale* with other specimens'.[67]

The problem presented by the incomplete nature of the Duchy records is here highlighted by the fact that, whereas the five 'marks' allocated to Ellis, Fox, Teesdale and Grey are all entered next to their names in the margin of List 1, there is none such against Cuff's name, nor against Somerset's which heads List 2. Lord Somerset's 'mark' and coins are recorded in a list sent to him by Danvers, on 7 September 1841, of which the Duchy copy is preserved (B3). It would seem that the only type of 'mark' by then available for distribution would have been a plain one because, the previous month, Danvers had written to G. Rennie, MP, on 26 August (as detailed below), that:

> Some few pieces were marked with a cross, which from their weight are supposed to have been 'the Mark' which in former days passed current for 13/4d … but these are already disposed of.

The following year, at a meeting of the Court held on 30 April 1842 ('Minute Book: 1841–45', 79), a 'mark' (presumably also plain) was allocated to William Hamilton, FRS, together with eleven coins. There would, however, appear to have been no more 'marks' of any kind available for distribution by the time that Somerset was succeeded as Chancellor by Lord Campbell, on 6 July 1846, for he could only be given 'Specimens of the Silver Bars – or Ingots' (together with the twenty-three coins mentioned above), as is recorded in a note dated 22 July 1846 (B3).[68]

Hamilton presumably received his 'mark' because he was a senior and distinguished antiquarian, who was a Trustee of the British Museum and a Vice-President of the Society of Antiquaries, but it is not evident on what basis anyone else was allocated one or more ingots, except in a few cases where they were specifically requested, although donations of ingots seem to have increased as supplies of the coins diminished.

On 26 August 1841, Danvers communicated (through G. Rennie, MP) to William Stevenson Fitch, of Ipswich (B3): 'a few pieces of the Silver discovered at the same time and place … as they may not prove uninteresting', together with thirty coins. At the end of the year, on 31 December 1841, the Royal Mint was allocated 'some ingots', along with thirty-six coins, according to their receipt dated 8 January 1842 (B5), with the distribution-list being annotated '& Ingots'; these are no longer in the possession of the Mint and cannot now be traced with any certainty.[69]

On the same occasion (31 December 1841), the Court added 'an Ingot' to the thirty-six coins (consisting of twenty St Edmund, twelve Cunnetti and four Charles the Bald) donated to the Tweedside Physical and Antiquarian Society for Kelso Museum ('Minute Book: 1841–45', 15). When the coins from Kelso Museum were sold at Glendining's, on 14 September 1933, lot 201 consisted of twelve Cunnetti (sold to Seaby) and lot 203 of eighteen St Edmund Memorial pennies (sold to Thornton), which are clearly from the Cuerdale hoard, although not identified as such, but lot 204 (sold to Baldwin, for stock) comprised: 'two silver ingots, probably Saxon; three sections from ingots; Persian Larin (fish hook coin), and three Japanese Bus (9)'.

It is obviously a matter of regret that it is impossible to tell from this wording whether or not the Court's allocation to Kelso of one Cuerdale ingot had in practice been increased to two – or even to two complete ingots and three fragments. Baldwin's have no knowledge as to where this material went, but suggested that as 'Nelson seems to have bought any we acquired it may well have gone to him' (pers. comm., 16 May 1988). However, there is no evidence that Philip Nelson, of Liverpool, began to collect Cuerdale material before 1942 (p. 171) and it seems much more probable that these ingots would have been acquired by Lord Grantley, to add to his small Cuerdale collection which Nelson was to purchase on the occasion of the Grantley (1942) sale (see below, p. 175, for the suggestion that they may have formed part of his lot 1).

On acknowledging receipt of a donation of ten coins (19 April 1844: B3), the Rev. Henry Christmas of Sion College, London Wall, requested 'one or two of the bars for my own cabinet' and, at the meeting of the Court held the following day, he was granted 'two of the silver bars' ('Minute Book: 1841–45', 302). His receipt, dated 10 May 1844, is indeed for 'Two Silver Bars', but these were not included in his sale at Sotheby's in February 1864. This gift was followed, on 29 June, by the Court's allocation of 'some bars of Silver' to 'the Antiquarian Society in the University of Cambridge' who had asked only for 'some Specimens of the Cuerdale Coins'; this was presumably to compensate for the fact that the only coins then available in sufficient quantity for distribution were Cunnetti (*ibid*., 320–1). List 2 and Duchy papers (B3) combine to show that they received twenty Cunnetti and twelve 'small Bars of Silver', also referred to as twelve 'Specimens of Silver', which are still preserved in Cambridge – in the form of five complete ingots and seven fragments (see pp. 175–6).

In December 1845, Richard Sainthill wrote from Cork asking for ingots for himself and Mr Lindsay (both of whom had already received coins), to be sent through his friend Major Moore (B3). The decision of the Court, on 22 December 1845, was:

> Let Six of the Silver Bars found at Cuerdale be set apart for Mr. Sainthill and Mr. Lindsay. Also let a selection of the Cunnetti Coins with three small bars of Silver be selected for Major Wm. Yorke Moore. ('Minute Book: 1845–49', 7–8)

Major Moore of the 54th Regiment signed a receipt, on 23 December, for fifteen Cunnetti and three 'small bars of silver' for himself, and another for 'six small bars of silver' for Lindsay and Sainthill (B3), for which Sainthill wrote to thank him, from Cork, on 29 December.[70] Sainthill's letter continues:

> The cut state of many of the Ingots, is to me, an additional proof, of the correctness of the opinion I have given, in the Olla Podrida,[71] that bullion passed Current, in an uncoined state, by Weight at that period of our History.

He went on to introduce 'William Leycester Esqre, of East View near Cork, a Young Gentleman, who has an immense Collection of Coins' as being a suitable recipient for some Cuerdale specimens.

Leycester himself wrote, on 2 January 1846 (B3), stating that he had been travelling on the continent for some years and so had only just learnt from his friend Major Moore that there were Cunnetti and ingots remaining for distribution. His application was approved by the Court on 9 January ('Minute Book: 1854–59', 12) and Danvers wrote to him on 9 June 1846 to tell him that '12 of the coins and three specimens of the Ingot pieces' were awaiting his collection; his receipt, dated 14 June, was for twelve Cunnetti 'and three small ingots' (B3).

The last of the Cork collectors to get in on this wave of ingot distribution was the Rev. Francis Newport, of Elmfield, Sundays Well, who wrote requesting some on 5 January 1846. Three years earlier, when 'Chaplain to the Russian Company at Archangel', he had been allocated fourteen coins ('Minute Book: 1841–45', 149). His letter was mislaid until April the following year, but he finally received two 'silver bars', as indicated by his receipt dated 4 May 1847 (B3).

It is thus clear that a minimum of eleven Cuerdale ingots was sent to Ireland, with all those on record going to Cork collectors,[72] given that Major Yorke Moore's Irish connections resulted from his military duties. The whereabouts of these ingots is not now known, although it is at least possible that some of them might be represented amongst the unprovenanced silver ingots in the National Museum of Ireland, Dublin. Another possibility is that the parcel of three Cuerdale ingots, given to the National Museum of Antiquities of Scotland in 1871, by Andrew Wilson (**1:136, 272** and **361; Pl. 11**),[73] might originally have been either Major Moore's or one of Sainthill's or Leycester's groups of three,[74] given that it seems probable that Lindsay's ingots eventually entered the Nelson collection (see p. 175), for no other donations of this particular size are recorded in the Duchy papers.

It would appear that Edward Hawkins learnt of this ongoing ingot distribution for he too 'applied for some Specimens of the Silver Bars and Ingots' and the Court, on 27 April 1846, 'ordered that some Specimens be selected' ('Minute Book: 1845–49', 51). Danvers then wrote to him, on 30 April, that 'some of the silver bars, or Ingots, were at his service' (B3), and List 2 terminates with an entry opposite his name stating simply: 'Various pieces'. Hawkins' collection is, however, described in somewhat greater detail in the Sotheby's catalogue for 19 January 1869 (lots 221–5), when fourteen Cuerdale ingots were sold, as well as some ingot fragments, together with three arm-rings and some ornament fragments, to a total weight of 46¼oz of silver (or *c.* 1.44kg).[75]

It is interesting to note that Hawkins had apparently not received any ingots in the early days of the distribution; this goes some way to confirming that the scarcity of Duchy records concerning the disposal of ingots reflects the actual situation, rather than drawing a veil over numerous unrecorded donations. This suggestion is supported by the fact that the many signed receipts from institutions and private individuals are only for coins, given that their frequent references to 'sundries' always seem to apply to miscellaneous coins (as on List 2), rather than to bullion.

Following this 1846 allocation to Hawkins, there is only one further entry in the 'Minute Books' to the donation of ingots – that already referred to above as having been made to the Rev. Tullie Cornthwaite, on 7 April 1851, consisting of 'a few Specimens of the Silver Ingots' (for which, see p. 30). There is no way of knowing whether, by this stage, there were any other ingots or hack-silver left undistributed, but there was apparently nothing of the kind remaining for transfer, with the remnants of the coins, to King George VI's collection in 1947, with the possible exception of one ingot fragment that formed part of the 'Cuerdale sweepings' which appear to have been acquired by T.W. Armitage (p. 29 and note 41).

Conclusions

It is clear from the evidence advanced above that the Cuerdale hoard had originally contained over 7,000 coins, but probably not as many as the 8,000–10,000 of the earliest estimates. In other words, a maximum figure of *c.* 8,000 coins would seem reasonably certain, with the actual total likely to have been in the region of 7,500 specimens (see Chapter 3, below).[76]

The quantity of non-numismatic silver must likewise remain uncertain, although the margin of error is probably no greater proportionally than for the coins. The present distribution of ingots and ornaments in public and private collections may be accounted for by what is known about the Duchy's donations (with the possible exception of the Evans collection, discussed below), or their subsequent sale, together with a few 'escapes'. Some ingots may, however, have gained a false Cuerdale provenance (e.g. that now in the Ulster Museum: see Appendix 2, no. 2), as was certainly the case with some of the supposed 'Cuerdale' ornaments purchased by Philip Nelson, during the 1940s and early 1950s, which are now in Liverpool Museum (Appendix 2, nos 6 and 7);[77] on the other hand, the Nelson collection definitely includes the bullion from the Richardson sale, together with what would appear to be the remains of two or more of the Duchy's allocations of ingots.

The largest group of Cuerdale material recorded as a Duchy allocation of which the whereabouts are no longer known is that donated to Hawkins, in the form of ingots, arm-rings and hack-silver, as described above (and see note 75 for details); likewise, it will have been noted that numerous ingots from the Duchy's supply cannot now be traced. Amongst the missing objects for which there is no known Duchy connection are some ingots sketched by Charles Roach Smith, in 1842/3, together with a decorated arm-ring and a plain finger-ring (**Cat. Fig. 4** and **Pl. 17**), although the two rings formed part of lot 172 in the sale of the Bateman collection (Sotheby's, 14–15 June 1893), as described below (p. 170). In addition, many of the 'escaped' ingots that were sold at auction in Preston during the 1840s and 1850s have clearly gone missing (see p. 34).[78]

Finally, amongst the other material unaccounted for today, there is the 'Silver armilla, curiously ornamented with impressed work, found near Preston, in Lancashire', exhibited by Isaiah Deck of Cambridge to the annual meeting of the (Royal) Archaeological Institute, held at Winchester, in 1845;[79] the 'armilla … supposed to be of Anglo-Saxon workmanship … from Cuerdale', exhibited to the (Royal) Archaeological Institute, in April 1849, by W. Whincopp of Woodbridge, Suffolk (*Archaeological Journal* vi (1849), 190) and sold by him as 'a silver bracelet – *from Cuerdale*' (Christie's, 28 June 1870, lot 179); and the silver 'Saxon Armilla, flat, ornamented with incuse or pressed squares and zig-zags', purchased by Col. Fox at the sale of the P.B. Purnell collection (Sotheby's, 8 May 1872, lot 147).[80] It is, however, possible that the Deck and Purnell ornamented arm-rings might have been the same object.

As described above, Jonathan Richardson was not allocated any coins or ornaments by the Duchy (his reward being £20 and a Coronation Medal) and, on the sale of his collection, the catalogue specifically stated that his collection had been the gift of Assheton.[81] The growth in the Assheton collection, despite this gift to his bailiff, has also been noted above, extra material having been handed in to him after the fuss of the inquest had died down (notably Richardson's personal selection of coins), although there is also evidence to indicate that he acquired some part of it through the Preston sale-room (see p. 168). The clearest indication of Assheton's acquisition of Cuerdale material, additional to his Duchy allocation, is that the collection came to include four 'marks', whereas the cabinet presented to him by the Duchy was only fitted for one.[82]

There remains outstanding the problem of the mixed group of forty Cuerdale ingots, ornaments and hack-silver (including one 'mark'), now in the Ashmolean Museum, Oxford, which formed part of the gift by Arthur Evans, in 1908, of the collection assembled by his father, Sir John Evans, who had himself donated an ingot fragment to the Society of Antiquaries of London (see p. 175). In the 'Remarks' column of the Ashmolean register, against the first of the Cuerdale entries (1909.519), comprising a pair of arm-rings (**1:448–9**; **Cat. Fig. 14**), is the name of F.W. Fairholt, FSA; these rings are identifiable in the (1866) sale of Fairholt's collection, although it is not known how they came into his possession.[83] The second entry in the register is another complete arm-ring (**1:444**; **Cat. Fig. 13**) that can be recognised from a drawing by Charles Roach Smith, contained in his 'Notebook' (p. 93) from 1842/3 (**Cat. Fig. 4**), where it is accompanied by drawings of a finger-ring and four ingots that did not form part of this Evans donation, presenting further problems of identification and distribution which are discussed below (pp. 170 and 176–7).[84] The Roach Smith arm-ring and finger-ring can, however, be recognised in the Bateman (1893) sale, forming part of lot 172, together with a cross-marked 'mark' and a 'small piece of a Bar of Silver', identified as being 'from Dymock's collection'. This lot (sold to Rollin) would thus also have provided Evans with his 'mark' ingot (**1:8**), as well as one further fragment of silver (most probably, **1:957**). In addition, it is demonstrated below (p. 170) that the Cuerdale finger-ring from Bateman lot 172, otherwise missing, was in fact donated separately by Evans to the Ashmolean in 1930, with an erroneous 'Suffolk' provenance (**1:990**), as part of his collection of finger-rings.

The remaining thirty-five pieces in the original Cuerdale donation represent a fair cross-section of the hoard's non-numismatic contents and so it has the appearance of a deliberate selection rather than resulting from a collector's occasional purchases (cf. the Nelson collection). There is, however, no indication in the Duchy records, as demonstrated above, of the donation of any such group of bullion to an institution or individual. The simplest suggestion is therefore that this parcel originally formed part of the official Treasure Trove material, selected to form a representative sample of the hoard for presentation to an officer of the Duchy, such as the Earl of Clarendon (as Chancellor), in which case there is no reason why it should have been recorded in the available papers – and the fate of the Clarendon collection is unknown (see note 55). In support of this scenario, it should be noted that the Ashmolean register records the weight of each piece in grains (other than the three arm-rings and 'mark', the weights of which are entered in grams); five of these weights have '?' written in front of the figure. The obvious explanation for this is that they were originally painted with the Duchy's weights, but that not all the figures remained entirely clear; they have long since been cleaned off.[85]

The quantity of non-numismatic silver objects from the Cuerdale hoard catalogued here totals 1,153 objects, comprising: 894 in the British Museum (of which 6 are missing); 158 in the Assheton collection; 41 in the Ashmolean Museum; and 36 in the Liverpool Museum; together with 19 ingots in seven other collections; the 3 lost ingots sketched by Roach Smith (**Pl. 10**); the lost arm-ring illustrated by the Rev. Thomas Hugo (**Pl. 40**); and the lost finger-ring drawn by Samuel Hibbert (**Pl. 44**).

Allowing for the ingots known from the Duchy's distribution records to be missing and for the other 'lost' pieces noted above, as well as for the likelihood of there having been some unrecorded 'escapes' (because melted down or now unprovenanced), it would seem reasonable to suggest that the original total of the non-numismatic material is likely to have been a little over 1,200 pieces.[86] Overall, therefore (including the coins), it would appear that the Cuerdale hoard originally consisted of *c.* 8,700 individual items of silver.[87]

In order to try and establish the overall weight of the hoard, there are two possible approaches: (i) to commence with the weight of silver delivered to the British Museum for study by Hawkins *before* the Duchy commenced its distribution, with the addition of an estimate for identifiable 'escapes'; or (ii) to commence with the total weight of the bullion catalogued here, with the addition of an estimate for identifiable losses from the distribution, together with the same estimate for 'escapes'.

For the purposes of this exercise, it is has been considered wisest not only to calculate on the basis of a low estimate for the number of 'escapes', but also to utilise an average weight of 20g for an ingot/fragment – that is below the suggested mid-20s 'target' (see Chapter 4, pp. 75–8). On this basis, it may be suggested that there are at least thirty non-numismatic pieces identifiable in the Preston sale-catalogues, reviewed above, which cannot now be traced (with a suggested total weight of *c.* 0.6kg), and also that there is evidence for there having been three extra 'marks' (amounting to *c.* 0.77kg); in addition, an estimate of 26g may be suggested for Hugo's lost arm-ring. On the basis of the Duchy distribution-lists, and what has been discovered concerning subsequent sales of Cuerdale material (see above), it can be estimated that a minimum of thirteen of their standard ingots/fragments can no longer be traced (or *c.* 0.26kg). In addition, the fate of the whole parcel given by the Duchy to Hawkins is unknown, following his sale in January 1869 (see p. 33 and note 75, for details), at which the combined weight of non-numismatic silver was 46¼oz (or *c.* 1.44kg).

(i) The receipt given by the British Museum to the Duchy of Lancaster, on 12 October 1840 (see note 27), was for 974oz and 10dwts (Troy) in respect of the bullion (including sixteen 'marks'), or 30.46kg, together with 6,727 coins (as subsequently listed by Hawkins). The official weight of the coins was given as 304oz (or 9.5kg). It may thus be estimated that the Duchy delivered up to the Museum silver to a total weight of almost

40kg. However, it is argued here that the hoard will have contained *c.* 7,500 coins, and thus the total weight of its original coin-content must be increased proportionally to *c.* 10.5kg (or, as will be demonstrated below, *c.* 25% of the hoard by weight of silver).[88] It is then necessary to add both the three additional 'marks' (*c.* 0.77kg), and the ingot 'escapes' identified from the Preston sale-catalogues (*c.* 0.6kg), together with Hugo's arm-ring (*c.* 26g). The total weight for the Cuerdale hoard, arrived at through this approach, amounts therefore to *c.* 42.6kg (in rounded figures).

(ii) The modern weights are shown in **Table 2.1.**

Table 2.1 The modern weights of the catalogued and newly weighed pieces of Cuerdale silver, including some converted/estimated figures for lost items

Ingots/fragments:	10.44kg
Rings/fragments:	5.23kg
Brooch/pin fragments:	0.71kg
Miscellaneous:	0.40kg
Coins (estimate):	*c.* 10.50kg
Total:	*c.* **27.28kg**

Using this approach, it is necessary to add: eight missing 'marks' (*c.* 2.06kg); forty-three missing ingots (*c.* 0.86kg); the missing Hawkins parcel, from the Duchy's allocation (*c.* 1.44kg); and the Hugo arm-ring (*c.* 26g): a total of *c.* 4.6kg. The total weight for the Cuerdale hoard, arrived at through approach (ii), amounts therefore to *c.* 31.9kg (in rounded figures), leaving some 10kg of bullion unaccounted for, presumably distributed by – and, in part, lost from – the Duchy office, without record (cf. pp. 29 and 30–3).

Notes

1 A report entitled 'Ancient treasure', concerning the discovery of the Cuerdale hoard and the subsequent inquest, appeared in September 1840 in *The Gentleman's Magazine* cx, 2 (June–December 1840), 295, but it contains no information unpublished elsewhere.

2 'Report to the Chancellor and Council of the Duchy of Lancaster on the subject of the Treasure recently found at Cuerdale', prepared by William Hardy, Clerk of the Records, with the assistance of John Teesdale, the Duchy Solicitor, but not printed (and then anonymously) until after read as a paper by Hardy to the Royal Society of Literature on 24 February 1842 (in *Transactions* iv, Section xxvi, 209–25).

3 'Correspondence' iv (CO-DY), nos 1202–5. The first three of these consist of requests for advice on the distribution of coins (December 1842); the fourth (April 1851) is quoted below (note 62).

4 'Original Letters and Papers' xxiv (January–July 1841).

5 'Officers Reports' (8 July 1841); 'Standing Committee Minutes' (10 July 1841); and the 'Book of Presents' (10 July 1841).

6 I am most grateful to the Chancellor and Council of the Duchy of Lancaster for permission to study and quote from these unpublished Duchy records, without which this account could scarcely have been compiled. Copies of my transcriptions of the entries in the 'Minute Books' relating to the Cuerdale hoard have been deposited in both the Department of Prehistory and Europe and the Department of Coins and Medals at the British Museum.

7 Further details are taken from the statements of the witnesses (the 'Proofs') that form part of the 'Brief'.

8 The names of fourteen workmen are, however, given by Frank Coupe (1954, 22), who does not cite the source of his information.

9 The site was marked by the planting of a willow tree (Edwards 1998, fig. 34), which was, by the turn of the century, said to have been 'at its prime' (Andrew 1904, 16); it was subsequently felled by a storm and reduced to a stump. It had disappeared by 1941 and, in its place, a memorial stone was erected by the Rt Hon. Ralph Assheton, MP (later Lord Clitheroe), who unveiled it in October 1948. Illustrations of the tree, its stump and the stone are preserved in J.R. Charnley's scrapbook, entitled 'Cuerdale Coins', now in the Harris Museum, Preston.

10 Joseph Kenyon was described in 1825 as an 'attorney's clerk', but he subsequently ran a private school in Preston (Blunt 1983, 2–3).

11 Hawkins was clearly aware of Kenyon's dishonesty in this matter as his name was struck from a first draft of the Duchy's distribution-list (see also note 20).

12 The evidence for Kenyon's and Richardson's coin subtractions is presented by Blunt (1983, 1–4), but when this paper was written he had no reason to suppose that there were two separate parcels to be linked with Richardson (see also note 17).

13 I am most grateful to Ross Trench-Jellicoe for having brought these drawings to my attention (Hibbert Ware MSS, vol. 6, 147–8, in Manchester Archives and Local Studies, Central Library); the second page illustrates the pseudo-penannular brooch fragment (Assheton Collection [AC]: no. 151; Hawkins 1847, fig. 97), the annular Hiberno-Scandinavian broad-band arm-ring (AC: 100; Hawkins 1847, fig. 21), and the Thor's hammer pendant (AC: 107; Hawkins 1847, fig. 85). There are, in addition, twelve coin impressions (pp. 145–6). Before moving to York from Edinburgh, Samuel Hibbert (1782–1848) had been Secretary of the Society of Antiquaries of Scotland (1823–7).

14 All details of Duchy officers in this chapter are taken from R. Somerville, *Office-Holders in the Duchy and County Palatine of Lancaster from 1603* (London/Chichester, 1972).

15 The first 'Person' is to be identified with William Gilbertson whose evidence to the inquest was quoted above. These twenty or so coins seen by Hopkins are to be numbered among the so-called 'escapes', in circulation after the main part of the hoard had been deposited in the bank at Preston, on 16 May. As noted, Gilbertson had immediately purchased two of the single coins that each of the labourers had been allowed to keep, but he subsequently bought further coins 'from various persons who stated that they had found them amongst the Soil at the same place' (B8).

16 Four copies of Miller's plan (and a draft) are preserved amongst the Duchy papers, one labelled for the use of the Attorney-General (B8) and another for Teesdale (B3).

17 This comment is contained in Hardy and Teesdale's 'Report' to the Chancellor and Council, dated 3 October 1840 (B8). There is a clear distinction, therefore, to be made between this parcel, presumably that which had been kept at the hall 'for the inspection of visitors', and the further parcel produced by Richardson only after the inquest had taken place (see p. 39).

18 Hugo's sale at Sotheby's (2 August 1877), after his death, included twenty-five Cunnetti, eleven 'silver pennies' and one 'Cufic silver Coin', from the 'Cuerdale trouvaille', together with a 'portion of a silver Ingot' (lots 105 and 106), but no arm-ring.

19 I am most grateful for this reference to David Sturdy who discovered this document in the archives of University College, Oxford.

20 For these services he was subsequently awarded a gift of coins, as was William Gilbertson. On the other hand, the claim for coins made by Joseph Kenyon, who is also recorded as having 'afforded great assistance in supplying evidence for the Inquest' (B8), was rejected despite a letter written by Hopkins in support of all three (on 8 September), on the grounds that they 'gave Us their assistance con amore' (B1). The fact that Kenyon, alone of these three, was unsuccessful in this respect will doubtless have resulted from Hawkins' knowledge of his illegal possession of his own prior selection (see note 11).

21 The preparation of the account of the contents of the hoard, which formed an appendix to the 'Report', was the work of William Hardy, Clerk of the Records from 1830 to 1868. Hardy made a detailed catalogue of the coins for which his descriptive lists and notes (B6), as well as a fair copy (B7), are preserved among the Duchy records. The latter remains a primary source of the utmost importance for knowledge of the Cuerdale coins and a copy is deposited in the Department of Coins and Medals at the British Museum.

22 A copy is preserved among the Duchy records (11/C/4 Treasure Trove:C).

23 See above, note 2, for details of this 'Report' and its printed version (1842).

24 Present were: the Chancellor (Lord Holland); the Attorney-General (Thomas Flower Ellis); the Receiver-General (Charles Richard Fox); the Auditor (Sir George Harrison); and the Vice-Chancellor (Francis Ludlow Holt); with the Clerk of the Council (Frederick Dawes Danvers) in attendance ('Minute Book of the

Court of the Duchy of Lancaster: 1837–41', 317–19).

25 There is no reference to the receipt of this, or of any other communication concerning the Cuerdale hoard, in the *Society of Antiquaries of London Minute Book* xxxviii (1840–4).

26 As named in note 24; in practice, the committee worked closely with Edward Hawkins who was asked to comment on the lists of names (contributing some himself), primarily in order to weed out dealers.

27 The receipt (B4) is dated 12 October 1840; it is made out for 6,727 coins and bullion (including sixteen 'mark' ingots) 'weighing nine hundred and seventy-four ounces and ten penny-weights Troy' (= 30.46kg).

28 I am most grateful to Sir Oliver Everett (The Librarian, Windsor Castle) for the information that 'we are unable to find any reference in Queen Victoria's Journals concerning a display to her of a selection from the Cuerdale hoard' (pers. comm.).

29 Calculated for the coins at their original face value (both pennies and halfpennies) of £65, with £220 for the bullion at the then current rate for silver of 4/6 per ounce.

30 I am most grateful to Marjorie Caygill for having provided me with transcripts of the diary entries of both Sir Henry Ellis (in the British Library) and Sir Frederic Madden (Bodleian Library) covering this event. Ellis states that: 'In the Medal Room, the Syracusan coins in silver and the gold ornaments were laid out in the one part and a rich series of gold medals, most from George the Third's Cabinet on the other.' (Add. 36,653, vol. 9). Earlier in his diary, for 14 October 1840 (vol. 8), he describes how 'Yesterday and this morning I looked in our Medal Room over the Coins which were found last Spring in Lancashire and which Lord Holland as Chancellor of the Duchy of Lancaster sent a day or two ago to the Museum for Mr Hawkins's selection …', before going on to go give a brief description of the contents of the hoard and to advance 923 as a possible date for its deposition.

31 The committee was obviously then disbanded for Danvers subsequently brought individual applications before the Court for its consideration (on thirty-six occasions over the next twelve years).

32 Hardy received the modest total of twenty-seven coins, the fate of which is unknown because they were not included in any of his three sales.

33 The Assheton collection contained 324 coins, plus the gold medal, when deposited on loan in the Department of Coins and Medals, in 1983, although it is impossible to arrive at a precise figure because of the number of very small fragments (Marion Archibald, pers. comm.). This increase is mostly to be explained by William Assheton's subsequent acquisition of over 200 coins from his bailiff, Jonathan Richardson (Hawkins 1843, 99–104; and see p. 39), despite the fact that he donated a Kufic coin to the Museum in 1847 (Lowick 1976, no. 19) and included 37 coins in his gift to Richardson, 5 of which were bought back in 1873 (see p. 168), and 32 of which were sold by his daughter in 1920 (Sotheby's, 2 February 1920, lots 160–72). The non-numismatic silver in the Assheton collection also increased in quantity, despite the fact that twelve pieces are known to have been given away, of which eleven to Richardson (pp. 167–8 and 172).

34 The 'Book of Presents' (see above, note 5) has a manuscript note added alongside the record of the donation, on 10 July 1841, which states: 'Not yet described. (Apr. 1842)'.

35 As described by Dolley and Shiel (1982, 156, note 6), Christopher Blunt owned a continuously paginated version of Hawkins' paper (pp. 1–100, as opposed to pp. 1–48 and 53–104 in the *Numismatic Chronicle* for 1842–3); this is the copy presented by him to William Hardy and has bound into it his accompanying letter of donation dated '27 July 1842'. This volume, annotated by Christopher Blunt, is now in my possession [J.G-C.].

36 An unpublished drawing by Albert Way of the Anglo-Saxon strap-end (**1:1,118**), dated 'B. Mus. Nov 2/40', is preserved in the library of the Society of Antiquaries of London (MS 700/III/5: Album 1, f. 23v).

37 There are, however, two entries each for four individuals: Col. Fox, who had two selections of coins (List 1); and Lindsay, Sainthill and Hawkins (List 2), who all received ingots at dates subsequent to their original allocations of coins (as described on pp. 32–3).

38 R. Somerville, *Duchy of Lancaster: 1603–1965*, vol. II, 336 (privately printed for the Duchy of Lancaster).

39 I am most grateful to Sir Oliver Everett for having enabled Marion Archibald and myself to examine these eleven coins in February 1987 (consisting of five Cunnetti, five Kufic and one Charles the Bald); they subsequently formed part of the 1990 exhibition of the Cuerdale hoard in Liverpool Museum (when they were listed by Marion Archibald in Philpott 1990, 80).

40 Information supplied by Sir Oliver Everett (pers. comm., 8 January 1986).

41 See the letter from Armitage to Philip Nelson, dated 6 September 1952 (p. 173); according to Christopher Blunt, these 'sweepings' were from 'an unknown source' (pers. comm.).

42 Hawkins' conclusion was that 'the total number of coins deposited must have exceeded 7,000' (1843, 4), also in advance of having seen Richardson's parcel; for further details, see p. 41.

43 Lowick (1976, 20) demonstrated that there were not less than thirty-six Kufic coins and fragments in the hoard, but this total has since been increased to *c.* fifty (Archibald 1992, 18), including a lost example described by Dolley and Shiel (1982), but with the main additions being those from the Assheton cabinet and the Royal Collection at Windsor Castle (see notes 33 and 39).

44 There is likewise no specific reference to Fenton's Kufic coin in the 'Minute Book: 1841–45', 152–3, although the Court did then allocate him 'some of each remaining Specimen'.

45 James Dodsley Cuff (1780–1853), of the Bullion Office in the Bank of England, whose collection was sold at Sotheby's in June 1854 (see note 67).

46 See de Longpérier (1843); the coins are preserved in the Bibliothèque Nationale.

47 Transferred to the Ashmolean Museum (Thompson 1967, xiii).

48 *Numismatic Chronicle* iv (1841), 33–4, listing ninety-six coins. The Numismatic Society of London became the Royal Numismatic Society in 1903, but the Society no longer possesses any Cuerdale coins, having sold fifty to Philip Nelson in 1952, which are now in the Liverpool World Museum (National Museums Liverpool; formerly National Museums and Galleries on Merseyside); see Warhurst 1982, xviii–xix.

49 Thompson 1967, xiii.

50 Robertson 1961, xii, where the date is given as '*c.* 1843' and the number said to be 'uncertain'.

51 The Royal Cabinet in fact received eighty coins (Galster 1964, xii); now part of the Nationalmuseum, Copenhagen.

52 See Blackburn and Dolley 1982, where sixty-nine coins of the 'Cuerdale series' are listed. However, the seventy coins listed by the Duchy for sending to Dresden included seven continental pieces (one Alfred, thirty St Edmund, six Charles the Bald, one Eudes, twenty-five Cunnetti and seven sundries) so that the collection may have been augmented from another source (unless the Duchy's donation happened to be more generous than was originally intended).

53 I am grateful to James Booth for the information that this parcel (comprising twenty St Edmund, twenty Charles the Bald and thirty Cunnetti) seems to have been dispersed, the only Cuerdale coins now in Manchester being the thirty-seven allocated to the Royal Manchester Institution (the forerunner of the present City Art Gallery) in November 1841 (Sugden and Warhurst 1978).

54 Etienne-Jean-Baptiste Cartier (1780–1859), editor of the *Revue Numismatique*.

55 The fate of these coins is unrecorded, the present Earl of Clarendon knowing nothing of this donation (information from Lord Stewartby); Clarendon's death in 1870 might, however, have occasioned a private sale (see also p. 171).

56 Lord Holland died suddenly not long after having initiated the distribution, but Lady Holland received forty-one coins in September 1841. It is of some interest to note that there was only one other woman amongst the 127 individuals to whom the Duchy donated coins, apart from Queen Victoria. This was Mrs Hamilton Gray who was allocated 'a little packet' (B3) of Cunnetti by the Court, on 29 May 1847, following an application made on her behalf by Hawkins ('Minute Book: 1845–49', 193); her collection was sold at Sotheby's, in August 1887, as the property of her late husband, the Rev. John Hamilton Gray.

57 Fox was a son of Lord Holland during whose Chancellorship he was made Receiver-General for life, an office held by him from 1836 until his death in 1873.

58 As listed in the *Numismatic Chronicle* iv (1841), 33–4.

59 I am grateful to James Booth for this information (pers. comm.), conveyed to him by A.E. Gilmour, Keeper of Coins for the Society.

60 This total of 259 is preferred here over the figure of 285 noted on a slip, dated June 1846, amongst the Duchy papers (B3), both

because it is consistent between the two lists and because it is in line with the total contained in a letter from Richard Sainthill of Cork who wrote, on 5 January 1845 (B3), asking for more varieties of Cunnetti than he had originally been allocated in June 1841. Sainthill had heard from Major Moore (see pp. 32–3) that there were, five months before, still about 280 Cunnetti remaining; his application was unsuccessful.

61 This estimate of some 160–70 coins is to be compared with the total of 117 pieces transferred, over ninety years later, to King George VI (as p. 29).

62 Danvers refers to 'my friend, the Revd. Tullie Cornthwaite' in a letter to Hawkins (7 April 1851), asking that he be allowed 'to have a view of the Cuerdale Coins & Treasure' at the British Museum (*Correspondence* iv (CO–DY), no. 1205). I am grateful to Hugh Pagan for having pointed out to me that two Cuerdale ingots 'formerly belonging to Rev. J. Cornthwaite', of Walthamstow, were offered for sale in *Spink's Numismatic Circular* (March–April 1920), no. 79661 (see also below, p. 174), where it is demonstrated that these two ingots, one of which is a 'mark', are now in Liverpool Museum as part of the Nelson collection and are all that remain from a total of seven 'specimens' that were originally in his possession).

63 The Museum now possesses a third such ingot, marked with a cross, purchased in 1873 (**1:7**).

64 One of these, now in the Liverpool Museum (ex-Nelson collection), can be demonstrated to have formed part of the Duchy's allocation of ingots to the Rev. Tullie Cornthwaite (see above, note 62).

65 Another possible 'mark' forgery is a Cuerdale ingot sold anonymously, at Sotheby's (12 July 1860, lot 360) to Eastwood, because of its light weight (7oz 3dwt), unless '7oz' was a misprint for '8oz' in which case it would have met the standard.

66 This necklace, which is in private possession, formed part of the 1990 exhibition of the Cuerdale hoard in Liverpool Museum; the coins are described by Marion Archibald, in Philpott 1990, 80, and it was illustrated in Graham-Campbell 1992b, fig. 1.10.

67 Sotheby's (June/July 1854), lots 639–51 (= 72 coins) and lot 652 (the 'mark'); the ultimate fate of this 'mark', which was sold to the dealer 'Cureton', is not known, although it is possible that it may have been acquired by Assheton (p. 169).

68 I am grateful to the Hon. Miss Moyra Campbell for the information that there are 'no coins or other Viking silver among the family possessions … [and] there is no mention of them in Lord Campbell's journal' (pers. comm., 10 January 1986).

69 They were still preserved at the Royal Mint in 1894 when they were listed as 'Anglo-Saxon Ingots, *temp*. Alfred the Great; of different weights; found at Cuerdale in Lancashire' in the *Catalogue of Coins and Tokens in the Museum of the Royal Mint* (London, 1874), no. 1930. They do not, however, appear in the catalogue of 1906 so that they were presumably disposed of, or went missing, between these dates (although see below, p. 165, for the suggestion that they might be represented by the Weber gift to the British Museum in 1906).

70 From this it seems safe to conclude that Moore, Lindsay and Sainthill received three ingots each, even though the figure '6' is entered in the margin of List 2 against Lindsay's name with 'Do.' beneath for Sainthill; this was presumably a substitute for bracketing the names together.

71 R. Sainthill, *An Olla Podrida or Scraps Numismatic, Antiquarian and Literary*, vol. I (London, 1844); vol. II was published in 1853.

72 There is no record of Edward Hoare, the one other Cork collector who received coins, having either requested or been sent any ingots ('Minute Book: 1841–45', 170 and List 2). In Hoare's letter of receipt, dated 20 March 1843 (B3), he stated 'that he was bequeathing his collection to his Alma Mater, Trinity College Dublin'; it was, however, sold at Sotheby's in July 1861. The only other Cuerdale material known to have been sent to Ireland consists of fifty-three coins to Trinity College Dublin and sixteen to Dr Aquilla Smith, Dublin, both in 1841 (List 2 and receipts). The receipt of the coins is recorded in the Minutes of the Board of Trinity College Dublin (TCD MUN/V/5/8), but they could not be traced in 2004 (Ursula Mitchell, pers. comm.).

73 *Proceedings of the Society of Antiquaries of Scotland* ix (1870–72), 179; there is no mention of how Wilson had obtained them and no one of that name is recorded in the Duchy distribution papers.

74 There were no Cuerdale ingots in the Sotheby's sales of Sainthill (April 1870), Yorke Moore (April 1879) or Leycester (June 1888).

75 Sotheby's (19 January 1869), lots 221–5: lot 221 consisted of four ingots, weighing 16¼oz (sold to Church); lot 222 of ten ingots, weighing 12oz; and lot 223 of ingot fragments, weighing 10oz. Lot 225 is described as '*Anglo-Saxon Silver Armillae*, three varieties', with a weight of 3¾oz, and lot 224 as 'fragments of Anglo-Saxon Silver Ornaments', weighing 4¼oz. Lots 222–4 were sold to Lincoln, a dealer, and lot 225 to another dealer, Webster, who had earlier purchased a pair of Cuerdale arm-rings at the Fairholt sale in 1866 (see p. 170). There were no Cuerdale ornaments or ingots in the Webster coin sale (Sotheby's, 18–22 February 1886).

76 This figure was arrived at through correspondence and discussion with Christopher Blunt to his ultimate approval and satisfaction.

77 See also the two 'Cuerdale' arm-rings acquired by the Berliner Prähistorische Abteilung des Museums für Völkerkunde, in 1906, as part of the Diergardt collection (Appendix 2, no. 3).

78 A Cuerdale ingot known to have gone missing in more recent years is that acquired by the Rev. John Ward, from an unknown source, which was exhibited in his museum ('Anglo-Saxon, etc.', no. 17,J), at the Abbey Folk Park, Hadley Hall, New Barnet (opened 1934). It is listed among the collections packed up, as a result of World War II, for transfer to Cyprus in 1946 ('Anglo-Saxon and Danish', no. 10), but does not appear to have been among those which ultimately reached Australia in 1955, now housed in the Abbey Museum near Brisbane (information from the Director, Michael Strong: pers. comm., 14 February 1986).

79 *Proceedings at the Annual Meeting of the Archaeological Institute of Great Britain and Ireland, at Winchester, September, MDCCCXLV* (1848), xli.

80 This 'Col. Fox' is to be identified with Augustus Henry Lane Fox (Pitt Rivers from 1880) rather than with Charles Richard Fox, the Duchy's Receiver-General, who had become General Fox in 1863 (died 1873). The ring is neither in the Pitt Rivers Museum, Oxford, nor in the Salisbury Museum and was therefore presumably amongst that part of the Pitt Rivers collection dispersed by the family in the early 1970s.

81 Richardson's collection was sold by his daughter at Sotheby's, on 2 February 1920, in 13 lots (nos 160–72); it comprised thirty-two coins and ten pieces of non-numismatic silver, including a 'mark'.

82 The Assheton collection now contains only two 'marks' (**1:6** and **11**) because one formed part of Assheton's gift to Richardson and is now in the Liverpool Museum (**1:2**, **3** or **4**), and the fourth, which was presented by Lord Clitheroe to Christopher Blunt, remains in private possession (**1:9**).

83 Fairholt had, however, drawn 140 Cuerdale coins for Hawkins' publication (1843, pls 1–10), so it is not impossible that he was rewarded, if unofficially, with a couple of ornaments from the hoard.

84 Roach Smith's *Notebook* is preserved in the Department of Prehistory and Europe, as also is his *Diary*, which lists the thirty-five Cuerdale coins which he received from the Duchy (vol. 1840–1, 254–5). There is, however, no record of him having been allocated any other material, but he subsequently obtained at least two more parcels of coins and, in 1862, he wrote to Joseph Mayer, of Liverpool, offering him coins and part of the hoard (see p. 177).

85 The Cuerdale ingot fragment (**1:273**) donated by Sir John Evans to the Society of Antiquaries of London does, however, retain its painted weight in grains and so may originally have formed part of the same parcel (p. 175).

86 In addition to this silver material, there exist four bone pins and a bone needle (**1:1,154–8**: Kendrick 1941; Edwards 1984), reputedly found with the hoard (see p. 129 and **Fig. 6.22**), as well as some fragments of lead from its container (p. 130 and **Fig. 6.23**) which form part of the Assheton collection (**1:1,159**).

87 These estimates are at variance with some of those formerly published by myself (e.g. Graham-Campbell 1980, no. 301), when I believed that the hoard comprised 'some 7,000 coins', together with 'over 1,300' other pieces of silver, but these totals were based on a preliminary inspection of the Duchy records. This brief overview had resulted in the impression that the references to 'sundries' were to bullion rather than to miscellaneous coins, as was subsequently clarified during my more detailed examination of the papers in 1985.

88 This estimated figure of *c.* 10.5kg for the weight of the *c.* 7,500 Cuerdale coins has been arrived at in consultation with Gareth Williams.

CHAPTER 3

The Cuerdale Coins

Gareth Williams, with a contribution by Marion Archibald

Reconstructing the coin contents of the Cuerdale hoard

No comprehensive study of all of the Cuerdale coins has ever been published, nor is such a study now possible. The hoard probably contained around 7,500 coins (see below, pp. 41–2), although some were certainly retained by the workmen when the hoard was first discovered, and others were apparently removed while the hoard was still at Cuerdale Hall, before the bulk of the hoard was sealed up and deposited in the bank. A small but indeterminate number were subsequently recovered by individuals searching the find-spot, both in the immediate aftermath of the discovery and over a period of some years thereafter. Moreover, those coins which were initially judged to be Treasure Trove and delivered to the Duchy of Lancaster were dispersed to institutions and private collections fairly quickly, together with an additional parcel subsequently passed to the Duchy by the landowner, William Assheton, the bulk of which were returned to Assheton as part of his allocation from the hoard (for more detailed discussion of the discovery and dispersal of the hoard see above, in Chapter 2, and Appendix 3). The coins were listed initially by William Hardy, the Duchy's Clerk of the Records, and subsequently by Edward Hawkins, Keeper of Antiquities at the British Museum (**Fig. 1.2**), who produced a detailed listing of the coins that had passed through the Treasure Trove Inquisition (Hawkins 1843).[1] Unfortunately, only a small proportion of these are illustrated, although those illustrations that were included are of excellent quality. The amount of detail in the listing varies considerably between different types, and although the general level of detail for the Anglo-Saxon, Anglo-Scandinavian and Frankish coins is fairly good, the Kufic coins received much less attention, as did the solitary Byzantine coin, while the coins from Denmark were, not surprisingly, unidentified, along with a few other unspecified coins. Furthermore, Hawkins' listing was almost complete by the time that he received the additional parcel from Assheton. Coins of particular interest within this parcel, such as the unique Ceolwulf II 'Two Emperors' penny, were incorporated into the main list, but the remainder were added as an appendix, with considerably less detail than in the main list.

Hawkins made a careful representative selection for the British Museum collection, and the bulk of those that were dispersed were deemed to be duplicates of those retained by the Museum. However, standards of what constitutes a duplicate have changed, and it is not always clear, for example, whether so-called duplicates were in fact die-duplicates, or coins with the same inscriptions but from different dies, or even in some cases coins of the same type. The recipients of the hoard included many private collectors as well as institutions, and not all of the coins initially dispersed can now be traced. Nevertheless, the archives of the Duchy of Lancaster contain lists of what was given to whom, and these Duchy lists (summarised in Appendix 3), combined with the listing provided by Hawkins, give a fairly accurate idea of those coins which were examined on the Duchy's behalf by himself, although as noted in the previous chapter, there are a few minor discrepancies in the Duchy records concerning the dispersal. In addition, neither the Duchy lists nor the receipts that remain with them in the archives are as detailed as Hawkins' list, making it difficult in many cases to trace the fate of individual coins.

By far the largest parcel came to the British Museum, and the vast majority of these coins are still available for study, together with a number of later additions, including some of the coins that had been allocated to Queen Victoria by the Duchy, as well as some individual pieces (Blunt 1983; Archibald 1985, 80). Other parcels presented to public institutions can also still be traced, while the largest parcel allocated to an individual was that of William Assheton. The authors wish to express their gratitude for the kindness of Lord Clitheroe and his son, the Hon. R.C. Assheton, in allowing the Assheton family holdings from the hoard to be deposited in the British Museum for study alongside the British Museum material.

Study of the two collections together immediately raises an important point concerning the representative nature of the coins in the British Museum collection. Although the majority of the coins in the Assheton collection are of comparatively common types within the hoard, with considerable overlap with the Cuerdale coins in the British Museum, the Assheton collection also includes some rarities, as mentioned above, including the unique Two Emperors penny of Ceolwulf II and Two-Line penny of Archbishop Æthelred, as well as the sole recorded Byzantine coin from the hoard. These rarities formed part of a parcel removed from the hoard at an early stage by Jonathan Richardson, Assheton's 'Hind', or agent/bailiff. As discussed in the previous chapter, the coins had been removed to protect what Richardson regarded as his employer's interests before the Inquisition, and these coins were not declared with the bulk of the hoard, although this parcel was quite properly declared by William Assheton when he became aware of its existence. Perhaps in recognition of Assheton's honesty, these coins were allotted to him, including the rarities, along with the 'duplicates' that he had requested.

The presence of these rarities in such a small parcel suggests an informed selection, and it is likely that Richardson was aided in this by the local collector Joseph Kenyon, who also seems to have made a selection on his own behalf at the same time (cf. Chapter 2). Kenyon certainly had access to the hoard before it was sealed, as copies of an initial summary of the contents of the hoard, signed with the initials 'J.K.', formed part of the evidence held by the Duchy in relation to the Treasure Inquisition, while Kenyon also published a short note in the *Numismatic Chronicle*, two years before the fuller report by

Hawkins (Cuerdale: Duchy bundle A3; Kenyon 1841).[2] Although Kenyon's note in the *Numismatic Chronicle* was not published until 1841, it is dated 10 June 1840, and the wording makes it clear that it was written before the Inquisition. The coins retained by the workmen were removed when the hoard was discovered (and thus prior to sorting), and so these probably represent a random sample of its contents. With regard to the strays from the hoard subsequently discovered on the site, there is again no reason to doubt that these represent anything other than a random sample. By contrast, Kenyon's selection included a high proportion of rarities. The late Christopher Blunt traced thirteen coins recorded in other nineteenth-century collections with provenances which could be traced back to Kenyon and in some cases back to the hoard itself (Blunt 1983). The majority of these were rare, including several types not recorded by Hawkins, and it is inconceivable that the coins sold by Kenyon could represent anything other than the product of a deliberate and informed selection. Blunt subsequently traced a further sixty-five pennies, or deniers, and seven halfpennies from the hoard in a posthumous sale of Kenyon's collection (C.E. Blunt, unpublished notes).

Blunt also noted that a Dr Alexander Moore also possessed a small collection from the hoard including the unique 'Halfdene' Two Emperors coin, which passed through several other collections before being purchased by the British Museum at the Montagu sale of 1895 (lot 400). At the sale of Dr Moore's coins at Preston in April 1848 (which included thirteen from Cuerdale), a rare penny of Ceolwulf II, by the moneyer Dudecil (now in the Fitzwilliam Museum), was purchased by Kenyon, and Blunt surmised that Moore might have obtained his coins from Kenyon in the first place (Blunt, unpublished notes). However, the testimony of the Preston 'chemist and druggist', William Gilbertson, reveals that Moore accompanied him to Cuerdale Hall on the evening on which the hoard was discovered. Although they were denied access on that occasion, Gilbertson was permitted access to the hoard the following day and, although he does not record that Moore returned with him, it seems likely that Moore did return at some point. Furthermore, it seems more plausible that Moore should have removed the coin, and that Kenyon subsequently purchased it, than that Kenyon removed it, sold it to Moore, and then purchased it back again a few years later. Gilbertson's account also makes it absolutely clear that local collectors did have access to the hoard on 16 May, although he does not name any but himself. Gilbertson himself had already purchased two coins from the workmen who found the hoard, and also admitted to having bought 'several other coins from various persons who stated that they had found them amongst the soil at the same place' (Cuerdale: Duchy bundle B8). Gilbertson's account does not seem to have been doubted, and he was rewarded for his assistance to the Duchy with a small allocation from the hoard, by contrast with Kenyon. The latter also appeared as an expert witness at the Inquisition, but his name was struck off the Duchy list of intended recipients of allocations from the hoard, presumably because they had learned of his pilfering (see above, pp. 23–4 and 35, notes 11 and 20).

It seems likely that others beside Kenyon and Moore helped themselves directly from the hoard. Gilbertson's evidence shows that there was potential access to the hoard on 16 May, and Hawkins (1843, 4, 104) noted that 'a considerable number were purloined before the general mass was deposited in the Preston Bank and are generally retained'. He further commented that there were:

> Several coins of considerable interest dispersed amongst collectors, which were abstracted by persons who, for such misdeeds, had not a shadow of claim, real or imaginary, on their own account or on that of any friend or employer, and who, when they took the pieces, must have known that they were stealing. It is much to be lamented that the avidity of some collectors should have enabled these thieves to bring their goods to a profitable market … Theft is theft, by whatever palliative people may attempt to veil its deformity.

This suggests both that more than one person was involved in the thefts, and that those persons were sufficiently informed to remove coins of 'considerable interest'. The Duchy papers (B8) also include the statement of Mr R.W. Hopkins, of Preston, that 'a friend in the Country' had showed him 'about a dozen ancient silver coins', including one which can be identified from a sketch as an Alfred Two-Line type of the moneyer Æthered, while 'another person' had showed him nine more, including a GRATIA DEI REX (GDR) denier of the mint of Arles. Hopkins went on to mention the discussions of the hoard going on at the time between 'local antiquarians'.

Three coins with a Cuerdale provenance (one Cnut, one St Edmund and one Kufic) are recorded in the sale of John Lomax of Clayton Hall, *c.* 1850, and what would appear to be the same three coins were sold in an anonymous sale at Preston on 10–12 June 1856, lots 324–6, together with other Cuerdale material (see below, p. 168). Blunt also noted a parcel of twenty-four coins in the collection of a local school, Stonyhurst College. Although these lacked a documented Cuerdale provenance, the combination of types represented and the school's proximity to Cuerdale means that a provenance from the hoard can be accepted as almost certain (Blunt 1983, 4). The coins were sold by the college at Christie's on 10–11 October 1989, lots 458–74 (including several double lots). The group contained: one Ceolwulf II, Cross-and-Lozenge (moneyer Liofwald); eleven St Edmund Memorial (Abbonel, Adradus x 4, Ansiger x 3, 'Aolabert', Sigemund, Wineger); three Cnut Rex – Cunnetti; one Cnut Rex – Ebraice Civitas; one Siefredus Rex; one Mirabilia fecit – Ebraice Civitas; two Alfred Two-Line (Cuthbert, Dunna); four Alfred Rex Doro (Bernwald x 2, Diarwald x 2). The combination of types within this group does not correspond with any of the groups on the Duchy distribution-lists, particularly as it contains a coin of Ceolwulf II, none of which is recorded as having been distributed by the Duchy. Interestingly, James Lomax, who was the brother of the John Lomax referred to above and who succeeded to the estate in 1849, is recorded as a benefactor of Stonyhurst College (Pollard 1978), so it is possible that both the Lomax coins and the Stonyhurst coins may have derived from a common source. An alternative source might have been the Berkley-Weld family, of Leagram Hall, which had given 'Stonyhurst with all its land to the Jesuits'; the bone pins and needle (reputedly from the hoard) remained in their possession until the early 1940s, when it was reported that they were 'destined for Stonyhurst College Museum' (see pp. 177 and 178, note 33). In any case, both groups of coins must have been abstracted from the hoard prior to the inquest, but while the Ceolwulf II coin is a rarity, the rest of the coins are of common types, suggesting a rather less

informed selection than that of Kenyon.

The view that more than one thief was involved is echoed by the Rev. T. Hugo (1853), who was appointed as curate within two years of the discovery of the hoard. Hugo himself acquired coins from some of the workmen, but also noted that 'several collectors in both town and country were soon able to exhibit specimens.' His statement that not more than a fiftieth part of the hoard had been abstracted is hard to verify. Even on the early estimation of a total of 10,000 coins in the hoard, that would mean not more than 200 abstractions altogether. Kenyon and Moore between them account for 100, together with whatever was taken by the other un-named persons referred to by Hawkins, Hopkins and Hugo, as well as any unrecorded coins which may have passed through the hands of Kenyon or Moore. Blunt (1983, 4) also notes that, because the parcel abstracted by Richardson contained common varieties as well as selected rarities, it is likely that the same was true of Kenyon – and that more common types are going to be less readily traceable in sale catalogues unless they were specifically given a Cuerdale provenance. The idea that relatively common types were abstracted is supported by the coins that can be identified in the two anonymous collections seen by Hopkins, as noted above, and also by the majority of the Stonyhurst group.

Nevertheless, given that summary descriptions (at least) survive of the known collections assembled outside the Duchy allocations, it does seem that the vast majority of the coins are recorded in some form. It is therefore likely that the recorded sample is broadly representative of the contents of the hoard as a whole. However, it is important to recognise that other rarities may have passed unrecorded, and that the evidence provided by the surviving records, and thus reconstructions of the hoard, is incomplete. This possibility is all the greater since the hoard does not simply represent a single snapshot of a controlled circulating currency. It was found in a context beyond any firm currency control, as can be seen from the wide variety of coinage within the hoard, as well as the combination of coins with other forms of silver, suggesting that the hoard functioned, at least in part, within the framework of a bullion economy (see below, pp. 69–71). Furthermore, on the basis of those coins that do survive, it appears that the hoard contained discrete groups of coins, collected in different places and at different times before eventually being merged into the hoard. It is perfectly possible that other such discrete groups existed within the hoard but are not, through chance, visible in its surviving body. It is also possible that even a few unrecorded rarities gone astray could have major implications for our understanding of the dating of the hoard. A single example of a St Peter penny, or one of Edward the Elder's later types, would push the deposition of the hoard later, and such pieces would again avoid easy identification with Cuerdale in sales catalogues unless explicitly provenanced, precisely because they are types which are not otherwise associated with it. It is notable that the early note by Kenyon in the Duchy archive states that he had seen (at least) one coin of Æthelstan in the hoard (Cuerdale: Duchy bundle A3; Kenyon 1841, 64). Very probably this was one of the more literate coins of Æthelstan II (Guthrum) of East Anglia rather than the son of Edward the Elder, but – with incomplete evidence – it is impossible to state this with absolute certainty.

Any interpretations and conclusions based on the contents of the hoard are thus based on less complete evidence than is sometimes recognised, and it is therefore possible that they are distorted by what evidence has and has not survived. This is particularly important, given the importance of the hoard for our understanding of both the Anglo-Saxon and Danelaw coinages of the late ninth and early tenth centuries, and for the dating that the coins provide for the artefacts from the hoard, and thus for related material elsewhere. Despite this note of caution, the bulk of the coins were recorded in some form, and there is no particular reason to assume that the unrecorded minority would substantially change our interpretation, which must rest on the evidence available.

Total numbers

Various estimates have been made concerning the total number of coins in the hoard. Contemporary estimates ranged from 8,000 to 10,000, but even the lower of these now seems excessive. Hawkins (1843, *passim*) gave a total of 6,765 in his listing. This total was for coins identified in the main list, to which must be added those that Hawkins was unable to identify, plus the additional coins in the appendix. Hawkins alone thus records a total of 6,994, to which can be added the various parcels mentioned above (see **Table 3.1**):

Table 3.1 The identifiable totals of coins from the Cuerdale hoard

Hawkins main list	6,765
Hawkins 'Unidentified'	24
Hawkins appendix	205
Workmen	5 (plus up to 35 more)[3]
Kenyon sale	72
Coins earlier sold by Kenyon	13
Moore	15 (13 in the Moore sale and 2 others)
Gilbertson	20
Rev. Hugo	26 (plus an unknown number of later additions)
Lomax	3
Stonyhurst College	24
Un-named individual (1)	12 ('about a dozen')
Un-named individual (2)	9
Total[4]	7,193(+)

Blunt's unpublished notes indicate that a number of pieces (mostly fragmentary) in the Armitage collection were described to him, by Armitage, as 'the sweepings of Cuerdale' (see also above, p. 29 and note 41). A few later additions were made to the Assheton collection, which had grown from an original allocation of 269 to a total of 333 coins (including fragmentary Islamic coins, but not including additional miscellaneous fragments of Western coins) by the time that it was deposited in the British Museum, although a further 37 coins were, at one stage, in Assheton's possession, as this is seemingly the number that he gave to Richardson, of which five were subsequently bought back by his son (see p. 168), with the other 32 being sold at auction after his death (Sotheby's, 2 February 1920, lots 160–70 and 72). Adding in other individual strays with recorded Cuerdale provenances, or for which a Cuerdale provenance is likely, gives a minimum of *c.* 7,250 coins, and perhaps as many as *c.* 7,280, depending on the extent of double counting. Allowing for Blunt's point that strays of more common types are unlikely to be traced, a slightly larger round total of *c.* 7,500 is to be preferred, and this total has been generally accepted since the mid-1980s (as above, p. 33).

Of this total, over half of the actual coins can be traced in modern collections, while records survive in varying levels of detail of over 7,000 coins. These coins are a characteristic mixture of different types from around the Viking world. As one might expect from a Viking hoard from England, both official Anglo-Saxon issues and coins of the Danelaw are well represented. Some of the latter simply imitate Anglo-Saxon designs, but some represent distinct issues of the Viking kingdoms of East Anglia and Northumbria, and these form the largest groups within the hoard. In addition, the hoard includes a variety of coins showing the contacts of the Vikings elsewhere. These include a tiny number of coins from Scandinavia itself, together with large numbers of Frankish deniers and moderate numbers of Kufic dirhams, as well as a single Byzantine hyperperon. Each group, or component, will be discussed in turn.

The coin components

(a) Anglo-Saxon

The majority of the Anglo-Saxon coins date from the last three decades of the ninth century. Around 900 coins are recorded in the name of Alfred of Wessex. Some of these are official issues, while others are unquestionably crude copies from the Danelaw. Between these two distinct groups is a group of more questionable status. These are literate, with the designs much better realised than the cruder imitations, but still rough enough in their appearance to raise questions over their status. A wide variety of Alfredian types is represented, and the rarer types of Alfred feature particularly prominently amongst the coins known to have been removed by Kenyon. However, it is notable that Alfred's first type, the so-called Lunettes type, does not appear to have featured in the hoard. This was a continuation of the type introduced by Burgred of Mercia and adopted in Wessex by Alfred's brother and predecessor Æthelred I. The type has a markedly lower silver content than is typical for Anglo-Saxon coinage, whereas Alfred's later types were of good silver (see Blackburn 2003, for an overview of developments within Alfred's coinage.). Whereas Lunettes coins are known from Viking contexts in England, their absence from the hoard suggests that the baser coins had been entirely weeded out from circulation by the end of the century, reflecting the Viking desire for 'good' silver (see Marion Archibald, below).

The coinage of the 870s is represented, however, by a small number of Anglo-Saxon coins from the hoard. The earliest of these are probably three coins of East Anglian type in the names of Æthelred and Oswald. Those in the name of Æthelred were attributed by Hawkins to Æthelred I of Wessex, but both their style and their metal content are quite different from the rest of his coinage. More recently, it has been generally accepted that these are issues of an otherwise unrecorded Anglo-Saxon king of (or claimant to) East Anglia, following the death of Edmund. The same is probably true of the otherwise unrecorded Oswald (**Fig. 3.1,1**), although it is less clear whether Æthelred and Oswald represent an attempt to retain an independent East Anglian monarchy, or were merely puppet rulers under Viking control (Blackburn 2005, 29–30).

The hoard also contains a few coins representing a short-lived monetary alliance between Alfred of Wessex and Ceolwulf II of Mercia (874–*c*. 879). The hoard contains the sole example of the Two Emperors issue in the name of Ceolwulf (**Fig. 3.1,2**). Another unique example of the same type in the name of Alfred is recorded from Croydon Palace (Blackburn and Keynes 1998, 131–2). The hoard also contains examples of the Cross-and-Lozenge type in the names of both kings (**Fig. 3.1,3–4**). These two joint issues of Alfred and Ceolwulf II are taken to represent continued monetary and political alliance between Wessex and English Mercia, following the abdication of Burgred in 874, and mark the beginning of the reformed silver coinage that followed the baser Lunettes.

Ceolwulf disappears from the historical record *c*. 879, and it was probably at this point that Alfred assumed authority over the former Mercian settlement of London (Archibald 1991a, 186; Blackburn 1998, 120–1; Keynes 1998, 18–24). This was celebrated in the issue of a type carrying a monogram of the name LVNDONIA, which was widely imitated in the Danelaw. Both official issues of this type and Danelaw imitations (see below, pp. 48–9**)** are known from the hoard (**Fig. 3.1,5–6**). Other types of Alfred reflect his control of other burhs in southern England, including Canterbury, Gloucester, Oxford (*Ohsnaforda*), Exeter and Winchester (**Fig. 3.1,7–8**), but the largest group by far is the Two-Line type (of which Alfred's Canterbury coinage, carrying the inscription REX DORO[VERNIAE] form a distinct sub-group), which formed the main coinage from *c*. 880 to the end of Alfred's reign (**Fig. 3.1,9–11**; Blackburn 1998, 121–3; 2003, 207–8). The hoard also contained a unique Two-Line penny in the name of Archbishop Æthelred (870–89) (**Fig. 3.1,15**), as well as coins of Archbishops Ceolnoth (833–70) and Plegmund (890–923). The single penny of Ceolnoth (**Fig. 3.1,14**) is the earliest Anglo-Saxon coin in the hoard, and the only southern issue to pre-date the coinage reforms of Alfred and Ceolwulf. Plegmund's coins from the hoard are all thought to date from Alfred's reign (**Fig. 3.1,16**), which is reflected in the pattern of pecking (see below, p. 59).

The Anglo-Saxon component continued into the reign of Edward the Elder (899–924), but in much smaller numbers, with just over fifty coins of Edward recorded altogether. Although the Two-Line type remained the standard coin type throughout Edward's reign, changes in style have permitted Lyon to divide Edward's coinage into a series of chronological phases, and it is interesting that most of the recorded coins of Edward from the hoard belong to the first phase, including a mint-signed issue from Bath (**Fig. 3.1,12**), with a few from the beginning of the second (e.g. **Fig. 3.1,13**); all of Edward's later types, including the various pictorial types from western Mercia, appear to have been absent (Lyon in Blunt *et al*. 1989, 20–96).

Although Kenyon's notes in the Duchy records refer to a coin in the name of Æthelstan (924–39), which suggested to him that the hoard had been deposited 'shortly after the commencement of Æthelstan's reign' (Cuerdale: Duchy bundle A3), this appears on the basis of the surviving evidence to be a mistake based on the misattribution of coins of Æthelstan II of East Anglia (see below, pp. 42–3).

(b) Anglo-Viking: East Anglia

Two series of coins in the hoard can be attributed to the Vikings in East Anglia. The first of these imitates the Two-Line type of Alfred (**Fig. 3.1,17–18**) – and even appears to share some of

Alfred's moneyers. The ruler's name appears in a variety of blundered forms, but the more literate examples show that the intended name was Æthelstan. Documentary sources record that the Viking leader Guthrum was given the baptismal name Æthelstan after his forced conversion in the aftermath of his defeat at Edington in 878, and that he and Alfred (then or subsequently) agreed a treaty which left him in control of East Anglia (*Anglo-Saxon Chronicle* [*ASC*]*, sub* 878; 'Asser's *Life of King Alfred*', ch. 56, in Keynes and Lapidge 1983, 85; 'The treaty between Alfred and Guthrum', in *ibid*., 171–2, 311–13; Keynes 1998, 31–4). The close association between this coinage and Alfred's own is consistent with the interpretation that Alfred actively encouraged Guthrum to settle down as an 'Anglo-Saxon' king under his patronage. The association certainly leaves little room for doubt that this coinage should be attributed to Æthelstan/Guthrum rather than to any of the other recorded Anglo-Saxon rulers of that name. Despite Kenyon's attribution of the type to the later Æthelstan (924–39), these coins were recognised as coins of 'Æthelstan the Dane' as early as Hardy's report for the Duchy, dated 3 October 1840, and this attribution was confirmed by Hawkins (1843, 4, 8–10). This coinage is generally dated between 880 and Æthelstan's death *c.* 890 (for a recent commentary on this and other types of Æthelstan/Guthrum, see Blackburn 2005). Twenty-four coins of this type are recorded in the hoard.

A second type from East Anglia is much better represented, with around 1,800 examples, making this the largest single type within the hoard. This is a coinage imitating that of the last substantive Anglo-Saxon ruler of East Anglia, Edmund, who was killed by Vikings in 870. His death was later portrayed as Christian martyrdom, and Edmund became venerated as a saint. It is clear that this must be a posthumous coinage, since the coins give Edmund the title of saint as well as king. This was a substantial coinage, being struck with both literate and blundered inscriptions, both of which are represented within the hoard (**Fig. 3.1,19–20**). The type was probably struck not only in East Anglia itself, but also in the adjacent shires under Viking control, and has been dated to the period *c.* 895–910 (Blackburn and Pagan 2002; Blackburn 2006, 205–7). Many of the moneyers' names on the literate examples are Frankish, and it appears that the Viking rulers of East Anglia imported experienced moneyers from the Continent to restart their coinage. Since the type shows great variation not only in literacy but also in the neatness of execution, it is not clear that all of the St Edmund coins necessarily represent a single series. It may be that some of the coins are unofficial imitations rather than official issues, in which case they need not have their origins in the same area. However, it is also possible that the differences may simply represent a transition from literate to illiterate die-cutters.

(c) Northern Danelaw

The largest group within the hoard is now firmly attributed to the northern Danelaw, although this group, which was unknown before the discovery of the hoard, was initially interpreted as Frankish, or at least as Frankish-derived Viking issues (Hawkins 1843, 4, 67–90). This interpretation is understandable, given that the series has no precedent in Anglo-Saxon coinage, and that some of its aspects appear to reflect Frankish influence, with a few coins from the hoard combining designs from this group with a Frankish reverse with a literate Quentovic mint signature (**Fig. 3.1,21**). However, the distribution of this series in other finds reinforces its origins in the northern Danelaw; a large number of coins within the group carry what can only realistically be regarded as a York mint signature; and the two main rulers' names within the group are Scandinavian, thus leaving no real doubt that the series originated in Viking Northumbria.

The series is complex, based around a cross design with a variety of combinations of inscriptions, and has been the subject of a detailed study by Lyon and Stewart (1961). There are two main rulers represented: 'Siefred', whose name appears in both an anglicised form 'Sievert' (**Fig. 3.1,22**) and a Latinised form 'Siefredus' (**Fig. 3.1,23**), and Cnut (**Figs 3.1,23–4** and **3.2,1**). The latter's name always appears in the form CNVT REX, but it is normally arranged around the four limbs of the central cross in the pattern associated with signation, so that the reading of the inscription is not immediately apparent. Coins of both Siefred and Cnut are coupled with a reverse inscription (in various forms) EBRAICE or EBRAICE CIVITAS (**Figs 3.1,22** and **3.2,1**), which appears to derive its form from Frankish civic issues, but with a mint signature which can most readily be identified with York.

Coins in the name of Cnut are also combined with another substantial reverse group, bearing the enigmatic inscription CVNNETTI (**Fig. 3.1,24**), for which no entirely satisfactory explanation has yet been provided. It may be another mint signature because it is never paired with the EBRAICE signature, but if so the mint has not been identified, although it has been suggested that it represents a blundered form of a Quentovic signature (Keary 1887, 210). An unidentified mint in Northumbria cannot be ruled out, although the die-links through the CNVT REX obverse to coins with the EBRAICE signature make this interpretation problematic (Lyon and Stewart 1961, 108–9, 113; Stewart 1987, 348). This could, perhaps, be explained by the establishment of a second mint using obverse dies, and perhaps moneyers, previously (or simultaneously) used at York, but this seems like special pleading, given that there is no particular reason to associate the CVNNETTI inscription with a mint name.

The CVNNETTI inscription is always found coupled with the name 'Cnut Rex', and it is possible that CVNNETTI represents some form of nickname for this ruler, or some sort of Latinised patronymic, or an entirely separate personal name, although it does not correspond very closely with any recorded Old Norse name. However, the series as a whole is basically literate – and neatly executed – so it seems unlikely that this inscription alone was completely blundered; it probably does therefore represent a name of some sort. Lyon and Stewart drew attention to a Viking leader recorded in Frankish sources as Hundeus or, more rarely, Hunedeus, who raided on the Seine in 896, and may also have led raiders in Aquitaine and Neustria after over-wintering on the Loire in 897–8 (Lyon and Stewart 1961, 117). Building on the Hunedeus variant (and simplifying both given forms), Stewart (1987, 348) suggested the possibility that CVNNETTI and HVNEDE 'could be regarded as interchangeable … as different phonetic spellings of the same name'. The Hundeus of the Frankish sources could possibly represent a Latinisation of the Old Norse name *Hundr* ('hound'), which was used as both a personal name and a

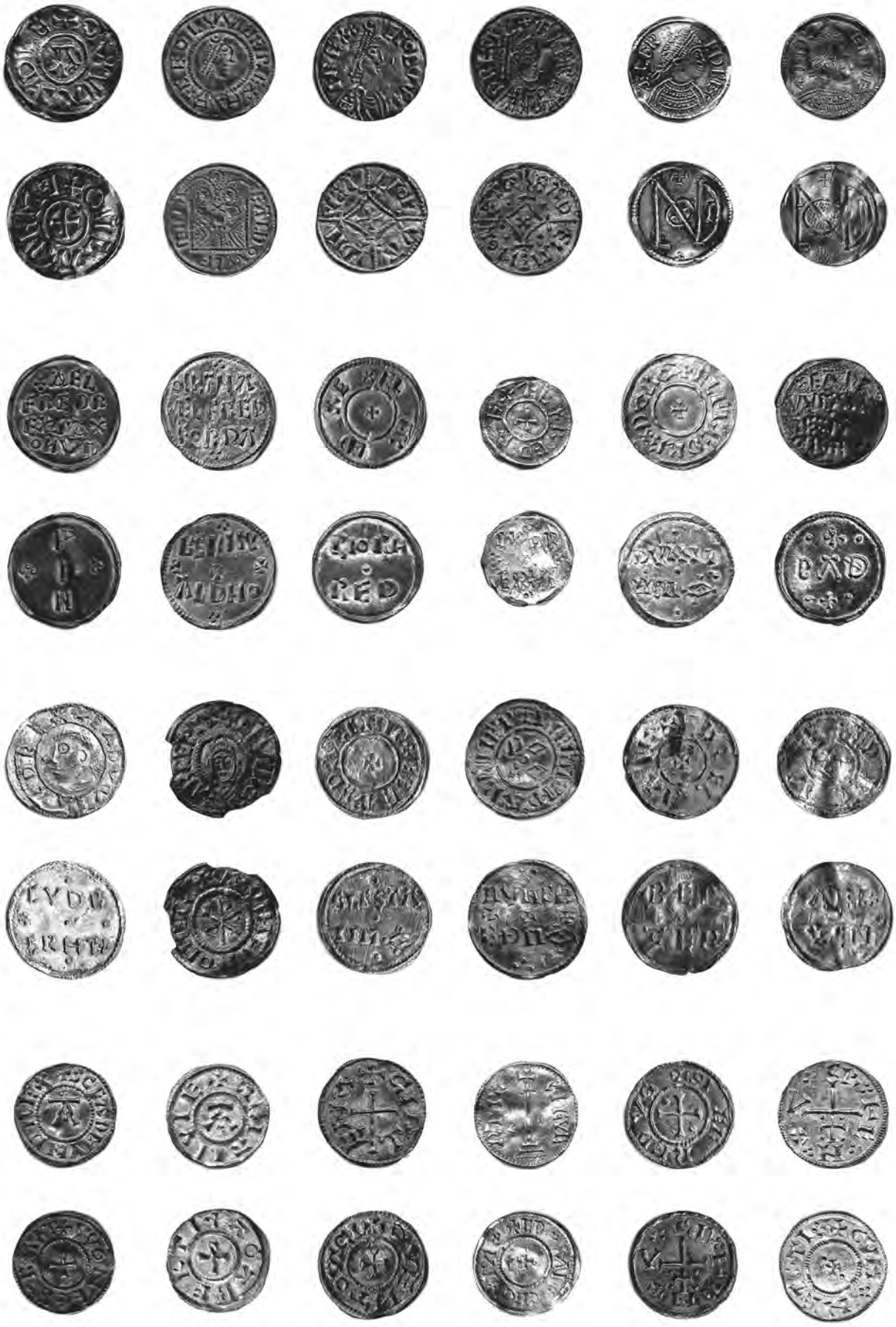


Figure 3.1 A selection of twenty-four Cuerdale coins (see Key)

Key
(Rows 1–2):
1. Silver penny of Oswald of East Anglia (BMC 87)
2. Silver penny of Ceolwulf II of Mercia, Two Emperors type, moneyer Ealdwulf (AC)
3. Silver penny of Ceolwulf II of Mercia, Cross-and-Lozenge type, moneyer Liofwald (CM: 1915,0507.702)
4. Silver penny of Alfred of Wessex, Cross-and-Lozenge type, moneyer Eadelm (CM:1955,0708.32)
5. Silver penny of Alfred of Wessex, London Monogram type (BMC 93)
6. Silver penny of Alfred of Wessex, London Monogram type (BMC 89)

(Rows 3–4):
7. Silver penny of Alfred of Wessex, Winchester type (CM: 1854,0621. 28)
8. Silver penny of Alfred, *Ohsnaforda* type (BMC 128)
9. Silver penny of Alfred of Wessex, Two-Line type, moneyer Biornred (BMC 211)
10. Silver halfpenny of Alfred of Wessex, Two-Line type, moneyer Cuthred (BMC 435
11. Silver penny of Alfred of Wessex, Two-Line (*Rex Doro*) type, moneyer Dunninc (BMC 29)
12. Silver penny of Edward the Elder, Bath type (BMC 1)

(Rows 5–6):
13.Silver penny of Edward the Elder, Portrait type, moneyer Cuthbert (AC)
14. Silver penny of Archbishop Ceolnoth, moneyer Wunhere (BMC 54)
15. Silver penny of Archbishop Æthelred, moneyer Ælfstan (AC)
16. Silver penny of Archbishop Plegmund, Rex Doro type, moneyer Hunfreth (BMC 85)
17. Silver penny of Æthelstan II (Guthrum) of East Anglia, moneyer Berger (BMC 94)
18. Silver penny of Æthelstan II (Guthrum) of East Anglia, moneyer Ælwen (BMC 91)

(Rows 7–8):
19. Silver penny of St Edmund Memorial type, East Anglia, moneyer Winegar (BMC 618)
20. Silver penny of St Edmund Memorial type, East Anglia, moneyer 'Adalbert' (BMC 172)
21. Silver penny, Viking imitation, Cnut/Quentovic mule (BMC 1005)
22. Silver penny of Sievert/Ebraice, Cross-on-Steps type (AC)
23. Silver penny in the names of Siefredus and Cnut (BMC 1022)
24. Silver penny of Cnut, with 'Cunnetti' reverse (AC)

nickname. The alternative form of the name, *Hundi,* while apparently less common, would come closer to the *Hundeus* form.[5] However, Stewart did note that his suggested equivalence between the names was subject to question, and such an interpretation does indeed seem to be extremely unlikely on philological grounds (Jayne Carroll, pers. comm.). The question of whether CVNNETTI represents a place-name, a by-name for Cnut, or the name of another individual, therefore remains open.

There are also two religious inscriptions: *Mirabilia fecit*, 'He has done marvellous things' (**Fig. 3.2**, **2–3**); and DNS DS [O] REX, interpreted as representing *Dominus Deus [Omnipotens] Rex*, or 'Lord God and King [Almighty]' (**Fig. 3.2,3**). In addition, one and a half examples survive bearing the personal name 'Alwaldu(s)' (**Fig. 3.1,4**).[6] The inscriptions are combined in a variety of permutations, which are listed in detail by Lyon and Stewart (1961, 103–9).

Two things stand out among the combinations. The first is, as just noted, that the CVNNETTI inscription never appears coupled with the EBRAICE inscription, which would support the idea that CVNNETTI could represent a second (unidentified) mint–place, distinct from York, although it might simply be explained by the fact that both inscriptions occur on reverse dies and therefore could not combine.

The second point is that the names of the rulers Siefred and Cnut (and, depending on interpretation, Cnut and 'Cunnetti') do appear in combination (**Fig. 3.1,23**). Such a combination is unparalleled in Anglo-Saxon coinage and, as a result, Lyon and Stewart (1961, 113–14) sought to explain this by suggesting that both names referred to the same ruler. However, the combination may also be explained by a difference between Anglo-Saxon and Viking concepts of kingship. Anglo-Saxon kingship in this period was normally tied directly to kingdoms, with a single king ruling over a kingdom at a time. By contrast, Viking kingship appears to have been more of a matter of personal status, and Anglo-Saxon sources show Viking forces being led by more than one person with the status of king, probably representing personal war-bands in temporary alliance (e.g. *ASC* (A and E), *sub* 871 [870]; 875 [874]; see also below, pp. 47–8). There is a tendency to refer to 'the kingdom of York' in this period as if it were a distinct political entity similar to an Anglo-Saxon kingdom, but such a kingdom does not emerge clearly in the historical sources of the period, despite the apparent role of York as a mint.

Although minting in itself, and especially the use of Latin and of explicitly Christian images and texts, suggests a degree of assimilation to the ideas of Christian Anglo-Saxon kingship, that does not mean that the Viking rulers were comparable to their Anglo-Saxon contemporaries in every way. Stewart (1987, 347) noted the possibility of multiple kingship in the Viking coinage minted in York in the early 940s and argued that this might also explain the joint issues of Siefred and Cnut. Multiple personal kingship would also explain why the Vikings were ready (according to West Saxon sources) to accept Æthelwold, nephew of Alfred and unsuccessful rival of Edward the Elder, as king (*ASC* (D), *sub* 901 [899]; Blunt 1985). He was *a* king, not *the* king, and therefore could be accepted as another king by the Vikings without diminishing the status of their existing kings. In this context, the attribution of the coins of Alwaldus within this group to Æthelwold seems perfectly plausible, although none of the surviving examples actually gives him the royal title.

Study of the die combinations shows that this Northumbrian series was a substantial coinage, and both the dies and the variations in wear and test-marks suggest that the series was issued over a period of some years, probably beginning in the 890s and continuing into the first decade of the tenth century. The most recent coins of this series appear to

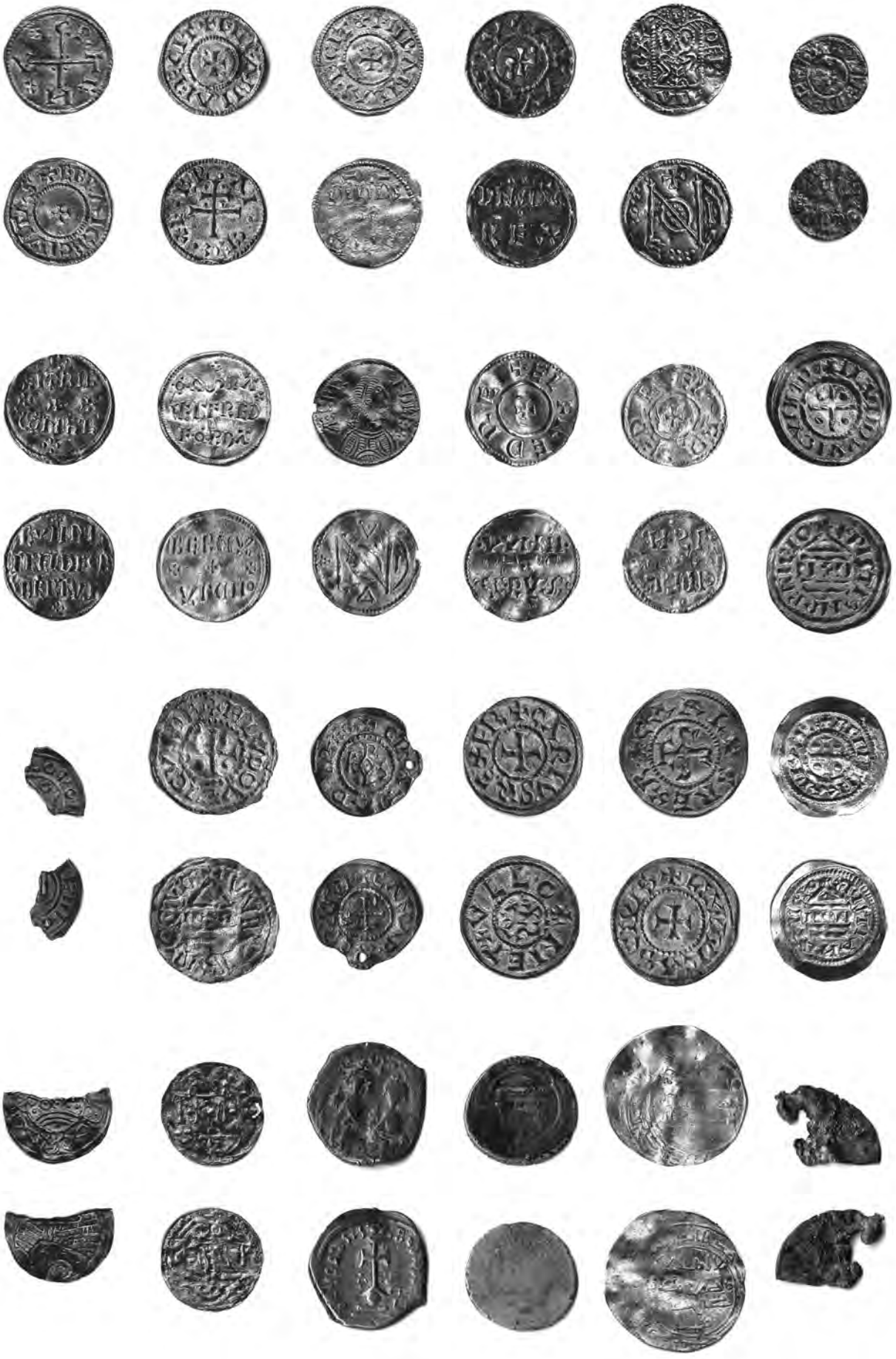


Figure 3.2 A selection of twenty-four Cuerdale coins (see Key)

Key
(Rows 1–2):
1. Silver penny of Cnut, with *Ebraice* reverse (BMC 870)
2. Silver penny of *Mirabilia fecit* type, with *Ebraice* reverse (CM: 1838,0710.1400)
3. Silver penny of *Mirabilia fecit* type, with DNS DS O Rex reverse (AC)
4. Silver penny of Alwaldus, with DNS DS Rex reverse (CM: 1838,0710.1422)
5. Silver penny of Halfdene (CM: 1896,0404.53)
6. Silver halfpenny of Halfdene, moneyer Rainold (BMC 869)

(Rows 3–4):
7. Silver penny of Sihtric Comes, moneyer Gundibert (CM: 1838,0710.1125)
8. Silver penny, Viking imitation of Alfred, *Orsnaforda* type (BMC 138)
9. Silver penny, Viking imitation of Alfred, London Monogram type (BMC 96)
10. Silver penny, Viking imitation of Alfred, Two-Line type, moneyer Winegar (BMC 393)
11. Silver penny, Viking imitation of Alfred, Two-Line type, blundered (BMC 426)
12. Silver denier of Louis the Blind, Milan or Pavia (BMS 277)

(Rows 5–6):
13. Silver denier (fragment) of Louis the Blind/Pope Benedict IV (CM: 1838,0710.1223)
14. Silver denier of Louis the Child (BMS 266)
15. Silver denier of 'Charles', pierced and heavily pecked (BMS 99)
16. Silver denier of Charles the Simple, Melle (BMS 173)
17. Silver denier of Odo, Limoges (BMC 248)
18. Silver denier of Berengar (AC)

(Rows 7–8):
19. Silver penny, Danish, type KG 5, probably Ribe (CM: 1838,0710.1226)
20. Silver penny, Danish, type KG 7, Hedeby (CM: 1920,0112.151)
21. Silver hyperperon of Heraclius and Heraclius Constantine (AC)
22. Silver dirham of Muhammad b. Ahmad, al-Banjhīr (CM: 1949,0601.1)
23. Silver dirham, illegible imitative issue (AC)
24. Partly melted silver dirham fragment (CM: 1975,0710.2)

have been very recently struck at the time that the hoard was deposited, but the rarity of these types within slightly later hoards from the Danelaw suggests that they ceased to be issued not long afterwards (Lyon and Stewart 1961, 110; Stewart 1987, 346).

The exact political situation in Northumbria during this period is impossible to reconstruct in any detail on the basis of the limited evidence available, and little can be said with certainty about either Cnut or Siefred. Siefred can probably be safely identified with a *Sigeferth* who attacked the Devon coast *c.* 893–4, and who is described as a 'pirate from the land of the Northumbrians' in Æthelweard's Chronicle (*Æthelweard, sub* 893; Lyon and Stewart 1961, 115–16.). Siefred may perhaps also (although less probably) be identified with a jarl called *Sichfrith*, who was recorded in the *Annals of Ulster* as active in Dublin around the same time, and who Smyth argued (1975, 33–5) was the same person as the Northumbrian *Sigeferth*, although this identification is problematic, since the *Sichfrith* (Sigfrith) of the *Annals of Ulster* is described as a jarl, not a king, and Sigfrith and Sigeferth should probably be regarded as distinct names, although closely related. The inscription SIEFREDVS on the coins could plausibly represent either name, but the form SIEVERT seems to point more clearly to the name Sigeferth.

Cnut can perhaps be identified as a Danish *Knútr* who is said to have fought battles north of Cleveland and near Scarborough, and to have conquered Northumbria *c.* 900, before being killed a few years later (Smyth 1975, 47–9; Stewart 1987, 347); however, the sources for this are late and far from reliable. *Jomsvíkinga saga, Óláfs saga Tryggvasonar en mesta* and the *Þáttr af Ragnars sonum* may well represent a genuine tradition of a ruler of this name being active in Northumbria around this time, for the name was not especially common at this period, but they are certainly not reliable as to his precise actions, or on detailed chronology. An extension to Smyth's hypothetical Danish link would make 'Cnut Rex' the father of Gorm the Old, a Danish king of the early tenth century, but this interpretation is highly speculative, based on no more than the possible recurrence of similar names, and cannot be regarded as more than a possibility. If 'Cunnetti' is to be identified as a separate individual, then that gives us a third Viking leader active around the same time, although one of whom nothing is recorded. However, even the dates associated with Sigeferth and Cnut are too fragmentary to provide firm start and end dates for the activities of either ruler within Northumbria, and thus establish a clear chronology for the coinage. Nevertheless, these coins are of particular importance for the interpretation of the hoard, representing as they do official issues produced within Viking Northumbria, which were circulating within the region at the time when the hoard was deposited. Whereas the contents of the hoard as a whole suggest a mixed silver bullion economy, its ultimate interpretation must also recognise the existence within Northumbria of this substantial and well-made regal coinage.

(d) Anglo-Viking: anonymous imitations and issues of uncertain origin

In addition to the coins that can be identified with East Anglia or Northumbria, there are some Viking issues that cannot be so neatly attributed. Only two of these appear to be official issues by named rulers.

Two coins, one penny and one halfpenny, have been attributed to a Viking ruler 'Halfdene'. One of these copies the reverse design of the Two Emperors type of Ceolwulf II and Alfred, which can be dated to the mid-to-late 870s (**Fig. 3.2,5**) This is just consistent with the Viking ruler Halfdan who divided up Northumbria in 876, but was apparently killed in Ireland shortly afterwards (Keary 1887, lxvi; Smyth 1975,

18–20). However, this design is combined with the reverse of Alfred's London Monogram type, which is unlikely to have been introduced before 878–80 at the earliest, and so not until after the death of the historical Halfdan (Blackburn 1998, 113). Furthermore, the interpretation of the inscription is far from clear, and this should possibly be considered as a blundered inscription rather than a firm attribution. It is also possible that it is a second-generation imitation, derived from a more literate Halfdene coinage, as represented by the other coin in that name. The halfpenny is of the Two-Line type (**Fig. 3.2,6**) and carries the inscription +ALFDENERX, or ALFDENERXX (Keary 1887, 203, no. 869 and pl. xxiv,1). While this is more clearly identifiable as the name Halfdene/Halfdan, it is again too late to be associated with the historically documented Halfdan of the 870s, and recent commentaries have firmly rejected the association with this ruler, placing this issue in the 880s at the earliest (Blackburn 2005, 21).

However, either or both coins may rather more plausibly be associated with a Viking king *Healfden* who was killed in 910, during a raid 'across Mercia' which ended in defeat at Tettenhall in Staffordshire. Accounts in different recensions of the *Anglo-Saxon Chronicle* show some confusion on the detail of this raid, but although the beginning of the episode is recorded as the 'host in Northumbria' breaking the truce, it seems clear that this was a substantial expedition with a number of leaders. An unusually detailed list of the Viking slain contains two kings (*Healfden* and an otherwise unrecorded *Eowils* or *Ecwils*), two earls, five people with the rank of *holdr*, and three leaders for whom no rank is given (*ASC* (B and C), *sub* 911; see also *ASC* (A), *sub* 910). With so many leaders, this is consistent with the force being made up of groups from across the northern Danelaw, rather than from Northumbria alone, especially since the raid came far enough south that both Mercian and West Saxon levies were sent against it. Given the predominance of Alfred's Two-Line type as a model, and the continuation of the type by Edward the Elder, there are no firm grounds for attributing this coin to any particular part of the Danelaw, or for tying it down to a precise date. Numismatically, it is easier to see the Halfdan coins as products of the Midlands than of Northumbria. There seems to be little space for imitative coinage in the Northumbrian coinage between the Siefred/Cnut series and the Swordless St Peter type which followed, and the rarity of these issues within the hoard, together with their complete absence from later Northumbrian hoards, argues against a Northumbrian origin. Their rarity would be more explicable if they are Midlands issues, and also if they are relatively late within the hoard. However, political boundaries in the Danelaw in the early tenth century were flexible and, in the absence of clear documentary evidence, their interpretation is extremely problematic. The comparative rarity of coins from the reign of Edward within the hoard has already been noted, and if the association with the Halfdan of 910–11 is correct, the Halfdan coins should probably be placed very late in Alfred's reign or early in the reign of Edward. Imitative issues in a ruler's name would fit into the same stage in the evolution of Anglo-Viking coinage as the issues in the name of Æthelstan/Guthrum (see above, pp. 42–3) and Guthfrith. Guthfrith's coinage is not represented in the Cuerdale hoard and is currently known only from a single example, in the slightly earlier hoard from Ashdon, Essex. He is documented as a king of Northumbria who died in 895, but his coin has been attributed to the Midlands on stylistic grounds (Blackburn 1989, 18–20). Both the Halfdan and Guthfrith coins would also sit comfortably alongside the imitative anonymous Viking issues from the Midlands, as designs in this area do not seem to have moved beyond imitation before the 920s.[7]

The hoard also contains two examples of coins in the name of 'Sihtric Comes' (or earl), struck by the moneyer Gundibert at *Sceldfor* (**Fig. 3.2,7**). The name Gundibert is Frankish, but as discussed above there appears to be some Frankish influence on both the East Anglian and Northumbrian coinage. The style of the coin, with horizontal inscriptions on both sides, is not particularly close to any of the issues discussed so far, but was probably inspired by Alfred's *Ohsnaforda* type. The place-name *Sceldfor* has been linked with both Shelford in Notts and Great Shelford in Cambs, and the absence of firmly attributed issues of this date from the Midlands for comparison makes a firm attribution on stylistic grounds impossible. Hart argued on historical grounds that the latter was more likely, and this view has been followed in recent commentaries, especially since the moneyer Gundibert is also known in the St Edmund coinage (Hart 1995; Blackburn 2001a, 132–3; 2005, 21; Williams 2007, 201). A further possibility is that the name relates to another place which had the same name in that period, but which has subsequently lost it. The extensive adoption of Scandinavian place-names across the Danelaw is well documented, and we do not always have evidence of pre-Viking alternatives for places with Scandinavian names.

This type is notable as the one example of a Viking coinage in the name of an earl (or *jarl*). Documentary evidence suggests that Viking forces were often led by earls rather than by kings, and the distinction seems to have reflected family bloodlines as much as any significant hierarchical difference in authority. One might therefore expect more issues in the names of autonomous Viking earls. However, coinage in early medieval Europe was normally an exclusively royal prerogative (except where the right of coinage was granted by kings to others), and Viking coinage generally seems to reflect this (Grierson and Blackburn 1986, *passim*; Grierson 1991, *passim*; Williams 2006, 186–8; 2007, 180–1, 200–2, 205–7). Sihtric's coinage (not to be confused with the later coinage of Sihtric I of Northumbria) thus represents something of an aberration.

The remaining coins in this group are anonymous imitations. The coins most commonly imitated are those of Alfred, with a number of Alfred's types imitated, most notably the *Ohsnaforda* (generally represented on the imitations as *Orsnaforda*) (**Fig. 3.2,8**), London Monogram (**Fig. 3.2,9**) and Two-Line types (**Fig. 3.2,10–11**). These are imitated with varying degrees of literacy, and also with varying degrees of crudeness in the execution of the designs, and do not all necessarily originate in the same place at the same time (Blackburn 2001a, *passim*). Although these issues have generally been assigned to the Midlands, it is perfectly possible that some of them may be issues from Viking Northumbria, representing a transitional imitative phase before the introduction of the regal issues discussed above. This would be consistent with a wider pattern across early medieval Europe, in which an initial imitative phase is typical before the introduction of a distinctive local coinage in areas (or by

peoples) where (or by whom) coinage had not previously been issued (Grierson and Blackburn 1986, *passim*; Grierson 1991, *passim*).

What is clear is that the striking of imitative issues did not cease after the introduction of the official issues in East Anglia and Northumbria. As noted above, the crudeness of some of the St Edmund issues is such that they should perhaps also be regarded as anonymous imitations rather than official issues. However, the case is clearer with a number of imitative types that combine designs from unrelated issues. These include a blundered St Edmund obverse combined with a blundered Alfred Two-Line obverse, and also a Cnut Rex combined with an Alfred Two-Line obverse. There is also a group that combines a very crude Cnut Rex with a much neater Quentovic type (**Fig. 3.1,21**), which is one of the reasons that the Northumbrian group was originally interpreted as Frankish issues. Lyon and Stewart (1961, 103), while arguing firmly for the Northumbrian attribution of the main group, continued to accept those coins with Quentovic signatures as Frankish issues in their 1961 article, but more recent publications by the same authors, and others, have re-united them with the other Cnut Rex coins as Danelaw issues (Grierson and Blackburn 1986, 322; Stewart 1987, 346). The marked difference in the quality of die-cutting between the Cnut Rex obverse and the Quentovic reverse may possibly indicate the re-use of official Frankish dies. The importance of Frankish moneyers for the establishment of the Danelaw coinage has already been mentioned, and it is possible that one of these moneyers may have brought dies with him from the Continent, although the Quentovic designs may simply be well-executed imitations. The presence of Cnut imitations within the hoard is also significant for our understanding of the main Northumbrian series. Lyon and Stewart argued for an internal chronology within the series, with the majority of the Cnut coins as a later addition to the Siefred coins (Lyon and Stewart 1961, 110–15). This is broadly supported by Marion Archibald's study of the pecking (see below, p. 60), although this suggests that the joint issues in the names of both kings could be among the latest issues in the group. However, the existence within the hoard of imitations in the name of Cnut shows that his coinage had been in circulation long enough to be imitated somewhere in the Danelaw, and for those imitations to have entered the currency in circulation in Northumbria.

While these later imitative issues show awareness of the official issues of Viking Northumbria and East Anglia, there is insufficient evidence to attribute them firmly as either unofficial issues within one or both of those kingdoms, or as unregulated issues from the Midlands, which appears to have continued to lack any centralised authority in this period.

(e) Carolingian

The early accounts of the Carolingian coins in the hoard are confused and inflated by the inclusion of the issues now attributed to Viking Northumbria, but the genuine Carolingian coins appear to number about 1,000 in total. Not all of these can be attributed or dated with any certainty, for two reasons. Firstly, there was considerable repetition of personal names among the Carolingian royal lines, and continuity of coin design was an important method of stressing continuity of succession. Linked to this is the use of so-called 'immobilised' types, which are issues which continued to be produced using the name and designs of a particular ruler for often long after his death, and often during the reigns of rulers with quite unrelated names. Nevertheless, a partial classification of the series has been provided by Grierson and Blackburn (1986, 218–59) and, although not all of their attributions can be regarded as certain, their classification is accepted here. More positively, most of the Carolingian issues carry mint signatures, and this has allowed scholars to observe that the coins in the hoard broadly fall into two groups. The larger group, containing *c.* 900 coins, was derived from coins of the western Franks, predominantly from what is now western France, and the Loire valley. The remainder, *c.* 100 coins, were issued in mints of the so-called 'Middle Kingdom', or Lotharingia, running from Quentovic and the Netherlands in the north down through Switzerland to northern Italy in the south. Given that the total number of coins is quite high, and that other areas within the Frankish kingdoms are not represented, it seems clear that these are two quite distinct groups, rather than a random selection of Carolingian issues. This geographical separation indicates that the groups were probably acquired by two or more separate raids in the respective areas (Archibald 1992, 17–18).

Grierson and Blackburn have noted that coins from northern Italy are commonly found in hoards from the Netherlands in this period, but not in French hoards, with monetary circulation reflecting the political separation of the Frankish kingdoms (Grierson and Blackburn 1986, 249–66; Archibald 1992, 17). This makes it unlikely that these Italian issues could have been acquired anywhere other than the Netherlands, because raids elsewhere in the Middle Kingdom were rare. By contrast, the North Sea coastal ports were the target of repeated raids, and it is possible – and even likely – that these coins derive from more than one raid in the area. As discussed in more detail by Marion Archibald below (p. 60), some of the northerly coins within this group are relatively heavily pecked, suggesting that they had been in Viking hands for longer than the less heavily-pecked Italian coins, although in some cases the latter were apparently issued earlier than the more northerly ones. This group appears to reflect a gradual northern drift up through the Rhineland into the coastal area. It is notable that the relationship between Viking leaders and Frankish rulers in this coastal area was complex, and coins could plausibly have been acquired through raiding, trade or officially sanctioned payments to Scandinavian mercenaries (Coupland 1998). Monetary transactions were common, and this part of the hoard may perfectly well be the outcome of multiple transactions over a period of some years. Within this group, some of the north Italian issues represent some of the latest coins in the hoard, with imperial issues of Louis the Blind from Milan and Pavia, dating from 901–2 (**Fig. 3.2,12**), and a joint issue of Louis and Pope Benedict IV, dating from 901–3 (**Fig. 3.2,13**). Some of the coins of Louis the Child (889/90–911) may be even later (**Fig. 3.2,14**), so that altogether this group is extremely significant for the dating of the hoard (Archibald 1992, 17–18).

The western Frankish group is both much larger and more complicated to reconstruct in full. Because there was not yet any detailed classification of the Carolingian coinage at the time when the hoard was discovered, and because the coinage

of Charles the Bald was so influential on that of his successors, Hawkins and (thus) the Duchy distribution-lists attribute to Charles the Bald both his own coins and those of Charles the Simple, as well as coins just in the name of 'Charles' from Aquitainian mints (**Fig. 3.2,15–16**) which are now regarded as postdating the death of Charles the Bald (Grierson and Blackburn 1986, 236–40, 247). While these groups can now be distinguished according to Grierson and Blackburn's classification, such a distinction is only straightforward where the coins themselves can be traced, and not where we are reliant on the early records alone. It is therefore difficult to get a completely clear picture of the relative size of the different CARLVS REX groups within the hoard. Furthermore, Grierson and Blackburn's work does not claim to produce a definitive study of the CARLVS REX coinage, and more work is required to establish the full relationship within the group as a whole. Fortunately, the western group also includes a large number of coins in the name of Odo (888–97) (Grierson and Blackburn 1986, 240–3; **Fig. 3.2,17**), and although it is possible that some of these may also represent later imitations, it is probably safe to assume that most, if not all, of the coins issued in his name were issued during his reign.

Because of the difficulties in establishing a clear chronology for the CARVLS coins, it is also difficult to state with any certainty either when the western group was acquired or on how many occasions. Coins from the western Frankish kingdom are likely to be the product of raiding alone, and some of the coins at least may plausibly be associated with a documented raid on Aquitaine in 898. However, it is quite possible that this group results from more than one raid, including perhaps one or more on the Loire valley, as well as on raids further south. Different patterns of pecking on the coins, discussed in more detail below, suggest that some of the coins had been in Viking hands for rather longer than others, which certainly supports the latter interpretation.

(f) Scandinavian

The Scandinavian component in the hoard was extremely small, consisting of only three or four coins, all but one of which were fragmentary. None of them was correctly attributed by Hawkins, given that the discovery of the hoard predated the classification of the early Danish coinage by Hauberg (1900, 36), with the subsequent more detailed classification of Malmer (1966, 168–86). The three fragments were all of Malmer's Combination Group (KG) 5, showing a facing bust on one side and a stylised beast on the other (**Fig. 3.2,19**), in a design derived from the eighth-century Series X sceatta coinage known from Ribe and elsewhere (Malmer 2007; Feveile 2008). The coins of KG 5 were originally attributed to Birka in Sweden, before it was recognised that the Birka examples generally show re-use as jewellery, whereas examples from Denmark generally do not. The type was subsequently attributed to Hedeby, along with other early Danish types, and it was with a Hedeby attribution that the two fragments still extant in the British Museum collection were published by Dolley and Talvio (1974). Hawkins (1843, 4) makes no specific mention of them, and it is likely that they fell into his category of coins too 'blundered and unintelligible' for identification. However, Hardy's list shows that there were originally three fragments of the same type, all listed by him as 'Uncertain'; however, the fate of the third fragment is not recorded – and his wording leaves it unclear as to whether the fragments came from two or three coins, although the former seems more likely.[8] The type continues to be dated to the second quarter of the ninth century, but more recent analysis of its distribution calls the Hedeby attribution into question. Distribution of Malmer's early Combination Groups falls into two distinct and mutually exclusive zones. One of these is around Hedeby, but the other is in the region around Ribe, on the west coast of Denmark. Malmer has been reluctant to attribute the bust/beast types directly to Ribe, probably at least in part because of association with the debate concerning the origins of the Series X sceattas, but it is hard to see a plausible alternative origin for this type, especially as recent work by Feveile has clearly established the continued use in Ribe of Series X to the end of the eighth century (and perhaps beyond), resulting in a much smaller gap before the introduction of the later coins with the same designs, distributed in the same area (Metcalf 1996; Malmer 2007; Williams 2007, 185–7; Feveile 2008).

The final Scandinavian coin in the hoard is another Danish issue, of Malmer's KG 7, which imitates a Carolingian type (**Fig. 3.2,20**). According to Malmer, KG 7 commenced *c.* 900, making the Cuerdale example the earliest dated deposit of the type, with its occurrence in graves and hoards continuing into the third quarter of the tenth century (Archibald 1985). While it is clear that KG 7 continued in use in Denmark well beyond the suggested deposition date for the Cuerdale hoard of *c.* 905–10 (see below, pp. 64–7), there is no compelling reason why the introduction of the type could not be pushed back into the late ninth century (Volker Hilberg, pers. comm.). Given Malmer's relatively late dating of KG 7, it is notable that the Cuerdale coin had not been freshly issued when it was deposited, but unlike the earlier Scandinavian issues in the hoard, it would still have been a circulating coin in Denmark at the time of its deposition.

(g) Islamic

The hoard contained around fifty Islamic coins in total. Unfortunately, these were mostly recorded by Hawkins in minimal detail, making it completely impossible to identify, on the basis of the early records, those coins which no longer survive with a clear Cuerdale provenance. Of those that do survive, many are fragmentary and some are illegible, which further limits the information that can be derived from them. However, the majority of the surviving coins were the subject of a detailed study by Lowick.[9] This revealed that a wide variety of mints is represented, from across the whole of the Islamic world (Lowick 1976; for a more recent discussion of Islamic coin finds from England in this period, see Naismith 2005; for a map of mints represented in the hoard, see Graham-Campbell 1992a, 12–13). Since the hoard already reveals contacts as far south as Aquitaine, it is not impossible that some of the hoard may be the result of direct contact further south in Spain, especially since the hoard contained at least one coin minted in al-Andalus. However, it is likely that most if not all of the Islamic coins made their way to England via the Russian river system and Scandinavia. The group includes a number of contemporary imitations, in addition to official issues, and at least two of these can be identified as issues of the Volga Bulghars (**Fig. 3.2,22**), reinforcing the importance of the river route.

(h) Byzantine

The sole Byzantine coin recorded in the hoard was a silver hyperperon of Heraclius and Heraclius Constantine (615–30) (Hawkins 1843, 91–2; **Fig. 3.2,21**). This is clearly much earlier in date than all the other coins in the hoard, and it is likely that it also represents Scandinavian trading-links through the Russian river system to the Black Sea. Other Byzantine coins are known from Viking-age Scandinavia, although they are much rarer than Islamic dirhams in the Scandinavian hoards, and are unknown in any other Viking hoard from Britain and Ireland.

(i) Pennies and halfpennies

The hoard is remarkable for the number of halfpennies that it contains. Anglo-Saxon coinage from the mid-eighth to the eleventh centuries was dominated by the silver penny. A much more limited gold coinage was produced, at least intermittently, and larger silver 'alms pennies' were also produced in the reign of Alfred. Otherwise, it would appear that only rarely were there any other issues in circulation, apart from the penny. The exception to this is the period from the reign of Alfred down to that of Edgar. Within that period, halfpennies seem to have been a normal part of the circulating currency, although they are much less common than pennies both in hoards and as single-finds. The main concentration is limited to the reign of Alfred, but this in part reflects the large number from the Cuerdale hoard. The hoard contains halfpennies of Alfred's London Monogram and Two-Line types, but there are also numerous examples in the imitative Viking types and in the series from Viking Northumbria. To judge from hack-silver and silver scraps from Viking hoards, and site assemblages, the Viking bullion economy included pieces much lighter than a typical penny of *c.* 1.6g, as well as much larger pieces, and the apparent popularity of halfpennies in precisely this transitional period in which the Vikings were adopting coinage may have been a response to a demand for lower denominations within the Viking silver economy than had been customary for use by the Anglo-Saxons. However, the appearance of halfpennies in only the later reformed types of Alfred's reign may indicate that the halfpenny had a role in the transition from the base Lunettes type to the later, purer, pennies.[10]

Testing

Marion Archibald[11]

Background

Testing objects made of gold and silver to establish their weight and the quality of their metal has been practised since ancient times (Oddy 1983). One of the reasons coinage was invented was to reduce the need for testing by providing units of standard weight and fineness, bearing the stamp of the issuing power and backed by its authority and sanctions. Official coins became familiar to regular local users and, in normal circumstances and everyday transactions, were trusted without resort to testing. Forgery and malpractice always required vigilance. Official issues could rightly or wrongly be mistrusted, and newly introduced types or unrecognised foreign coins could from time to time be suspect, all circumstances which might give rise to testing. Even in advanced economies, weighing coins was a more enduring practice, especially in the case of high-value gold coins and large-scale money transactions, but intrusive testing of individual coins was occasional or episodic and not systematic.

In the post-Roman world, the speed and extent of progress towards a national monetary system in the successor states of western Europe varied according to individual circumstances but generally went through the same major stages: copying a successful neighbouring coinage, adding local identifiers to the types, introducing a fully independent and issuer-explicit coinage, eventually carrying out periodic re-coinages, excluding foreign coins from the circulating medium and officially reserving it exclusively for the current local issue (Grierson and Blackburn 1986, 12–154). Some test-marking occurred but its interpretation is complicated by the fact that the currency of the transitional period was almost exclusively of gold which was, by reason of its high value, more subject to testing. Even so, it was not intensive or systematic. By the time of the Cuerdale hoard's deposition, the Anglo-Saxon kingdoms had experienced nearly 150 years of such a system of silver currency. Apart from transitional periods and a few stray survivors, the currency was by this stage principally composed of the type being issued, and Anglo-Saxon coins in Anglo-Saxon contexts were not subject to surface testing of their metal. From the mid-ninth century the rulers of Wessex and Mercia had, as part of an alliance to counter Viking incursions, taken the system a step further by allowing the unrestricted circulation of each other's coins throughout their kingdoms, using types, weight- and metal-standards in common to facilitate this. During both the Vikings' initial period of home-based seasonal raiding and in the following phase of their over-wintering in England, they did not test-mark the Anglo-Saxon coins they acquired. In England, the practice is confined to hoards and single-finds associated with the mixed bullion and monetary economy of their period of settlement in the later ninth and early tenth centuries. The chronology of the change will be discussed after the other testing methods available and the evidence of test-marking on coins from the Cuerdale hoard have both been considered.

Discussion of test-marking on coins and on artefacts has, perhaps inevitably, been largely conducted in isolation, although they are often found together, and the complementary nature and interdependence of their evidence are being increasingly recognised. Questions such as the techniques of the test-marks themselves and the geographical distribution of the various types are common to both. The problem from the numismatic point-of-view is that the independent archaeological dating of test-marking on artefacts lies within fairly wide limits and narrowing the margins is usually dependent on their association with coins, thus increasing the danger of a circular argument. For Britain and Ireland, a pioneer of bridge-building in this area has been James Graham-Campbell (1976a; 1976b; 2002a), who has dealt with the test-marking on the non-numismatic Cuerdale material (see below, pp. 78–9), and to whom I am grateful for many helpful discussions on the contents of Cuerdale and their wider context in the Viking world. The artefactual evidence has informed the discussion which follows, but is mentioned only when specifically relevant to the consideration of the coins.

Previous work on test-marking of Viking-age coins

Test-marking on Viking-age silver coins began to receive detailed attention at the beginning of the twentieth century in a ground-breaking paper by the Polish scholar Z. Zakrzewski (1910) and gathered pace from the 1950s when Welin published a system of classification (1956), developed further for the *Corpus Nummorum Sæculorum* (*CNS*) series by Malmer and her colleagues from the mid-1970s *(CNS* 1975–87 and forthcoming). Attention was at first concentrated on finds from Scandinavia and other countries bordering the Baltic and Slav states, where this secondary treatment is most prevalent but, since then, many eminent European scholars have been involved in this research, which has grown to cover all parts of the Viking world. For England, Graham-Campbell has reviewed the evidence of pecking on coins and related artefacts in his Linecar Lecture to the British Numismatic Society (Graham-Campbell 2002a, 53–5). Its bibliography is very extensive so the work cited in the following brief survey is necessarily highly selective. A particularly important methodological advance was made by the work of first Teresa and Ryszard Kiersnowski, then Malmer and others, on the progressive extent of pecking from younger to older coins in eleventh-century hoards from Poland and the Northern Lands, particularly on the plentiful successive English types present (Kiersnowski 1955; Malmer 1985; Metcalf 1985; Svensson 1986). Welin, Noonan and Rispling have studied the types of test-marking and the similar chronological patterns found on the coins of the successive Islamic dynasties and rulers present in Viking-age hoards from Russia and Scandinavia (Welin 1956; Rispling 1998; 2007; Noonan 1981, with an extensive bibliography, 256, n. 1; 1990; and forthcoming). A survey of the wider European scene will be published shortly by Moesgaard (forthcoming). In the past few years, emphasis has also been placed on the different techniques used in test-marking, practical experiments have been carried out and methods of recording them have been discussed. Recent articles by Gullbekk (1991) and Kilger (2006) deal with these aspects and provide useful guides to the literature.

The study of secondary treatment on coins from Britain and Ireland made a slower start, largely because it did not feature so prominently in indigenous finds. Earlier publications of British hoards usually mention the presence of test-marked coins in general terms, if at all. In contrast to the detailed recording of secondary treatment on each coin in the *CNS* series from 1975, the British *Sylloge* series from 1954 did not note test-marking at all, although it included a number of pecked coins from the Cuerdale hoard and later examples from known and unknown sources in Scandinavia. Dolley (1966, 77) drew attention to the importance of pecking in indicating the Scandinavian as opposed to English origin of unprovenanced eleventh-century coins in modern collections, but he did not discuss the presence of test-marking on finds of the earlier Viking period in Britain and Ireland. Blunt (1983) recognised the importance of pecking on Cuerdale coins in identifying strays from the hoard, and Lowick noted some secondary treatment including pecking in cataloguing the Islamic coins in the Cuerdale and Dysart (no. 4), Ireland, hoards (Lowick 1976; 1984). The secondary treatment on coins from British finds generally and the significance of the differential rates of pecking on coins from the Cuerdale hoard has been my own particular concern (Archibald 1980, 120, no. 405; 1990; 2007). The importance of test-marks on individual English hoard coins and site-finds is now fully recognised and they are recorded as standard in most British hoard publications and in the annual 'Coin Register' entries of the *British Numismatic Journal*.

Ways of testing coins

(a) Visual examination

Coins can be false in their stamp, their weight, their metal or any combination of these, and it is necessary for persons through whose hands they pass to cultivate expertise in the assessment of all three. Visual inspection by experienced eyes, unconsciously or deliberately, is the starting point of testing at all periods. Checking the stamp for authenticity depends upon familiarity with the genuine article. The stamp mattered to the Anglo-Saxon user because, if it were false, the user could be subject to severe penalties if he passed on or was found in possession of counterfeit coin (Screen 2007, 160–2, 165 and 170). The surviving documentary evidence for coinage offences and punishments is later than the ninth century but, as the coinage system was already well established, similar sanctions may be reasonably inferred. Genuine coins surviving in circulation or recently restored to it from a superseded and unfamiliar issue might also be subject to particular scrutiny. If they passed muster in certain situations where 'a penny was a penny', demonetised types were no longer acceptable as currency for official purposes and meant a financial loss to the owner.

The authenticity of the stamp might seem of less concern to Vikings essentially interested in bullion but it was, as the coins' issuers intended, a guarantee of the prescribed quality of the metal, which was of prime importance to them. A specific example of the role visual examination played in the Viking Age in the recognition of base-metal coins is illustrated by the well-known *Haraldsslátta* episode recorded in the *Morkinskinna* version of the saga of Harald Hardråde *(Morkinskinna*, ch. 73; Jónsson (ed.) 1932, 200; Skaare 1976, 9–11). This describes how:

> when Halldórr [Snorrason] received his pay, he held the money in a fold of his mantle and gazed upon it. The silver did not look fine. He struck his fist with his other hand so that all the money fell down on the straw [floor] … Halldórr said: 'Why should I serve him any longer, when I don't even get my pay unadulterated?'

Halldórr knew simply by *looking* at them that the coins he had been paid were base. The event the saga purports to describe took place in the mid-eleventh century and the existing manuscript is from the late thirteenth, but Skaare (1976, 79–85) argues convincingly that the story is acceptable in essence, and the modern analyses of surviving coins that he cites show that nearly half of Harald's coins have a silver content of less than 35%.

In the case of the Cuerdale hoard itself, Viking expertise in the visual recognition of doubtful coins is demonstrated by the more intensive testing of pennies which are of abnormal appearance or with irregularly placed and blundered inscriptions. These display a larger number of test-marks than other coins of the same general period and type (compare **Fig. 3.1,9** with **Fig. 3.2,11**). More test-marks could have been applied

on each occasion or the coins in question could have been selected for testing more frequently. Sometimes the placement of the marks points to one or the other, but often both. It was not necessary for the Viking testers to read or understand the inscriptions; they had only to recognise any departure from the norm. The fact that these coins survive among the others in the hoard shows that they were judged to have passed the repeated tests to which they had been subjected. While it may not be possible as yet to draw the line in every case between official Viking imitations of Alfredian issues and outright forgeries, the Cuerdale hoard includes few coins that the modern student would class as counterfeit. Official Viking imitations regularly show a greater level of test-marking than their West Saxon prototypes (see **Fig. 3.4**; and as discussed also below, pp. 58–61). To expose doubtful coins that were not so easily distinguished, other methods were required.

(b) Weighing

Although not specifically mentioned in Anglo-Saxon sources, the weighing out of tribute paid to the Vikings is mentioned in ninth-century Frankish accounts of their activities. The *Annals of St-Bertin* record that the sum paid to the Vikings in 860 was 'weighed out under careful inspection' and that in 866 'according to their scales' (Nelson 1991, 92, 130). Viking lead weights are found widely and plentifully in Britain and Ireland. Those with coins set on their tops (or impressions where coins had been) have increased in number in recent years but are still rare compared to other Viking weights. Williams (1999) published weights with coin insets including one early penny ('sceat'), twelve Northumbrian base-metal pennies ('stycas'), four ninth-century Anglo-Saxon pennies and one early tenth-century outlier, to which may be added several subsequent finds of weights with styca insets currently in preparation for publication (Gareth Williams, pers. comm.). They are still commoner than the official Anglo-Saxon money-weights struck with coinage dies from Alfred to Edward the Confessor of which only four were known to Williams (1999, esp. 20–3). Williams has suggested that the coins were probably not merely decorative or identifiers, as the small pieces of metalwork set on other weights, but were influenced in their design by the Anglo-Saxon official weights, and intended to lend the Viking weights some authority as well as to refer to their similar role in weighing out coins (*ibid*., 34–6). When their condition permits an assessment of their original weight, they do, however, conform to Scandinavian units of weight, not to amounts in coin or money of account as do the official Anglo-Saxon ones (*ibid*., 32–4). They are thus likely to have been used for weighing coins as bullion, and not to check their individual weights or that of specific sums of money. As Williams remarked (*ibid*., 32):

> The weights thus belong to a period in which the Viking economy was still bullion-based rather than properly monetary, but during which the Vikings in England were becoming increasingly familiar with Anglo-Saxon coinage.

No Viking money-weights corresponding to the Anglo-Saxon ones have hitherto been identified. All four of the known Anglo-Saxon coin-weights have been found in the places named on the dies with which they were struck, and this has been interpreted as indicating their use in the business of the mint itself, as mint-weights, as well as money-weights for other official purposes elsewhere. As the Vikings adopted Anglo-Saxon coining methods and organisation when they opened their own mints, it seems reasonable to envisage that they would have created and used mint-weights on the Anglo-Saxon model. It is hardly surprising that no Viking examples have been identifíed, because only four survive to represent the much more numerous Anglo-Saxon mints which were in operation over a longer period of time, probably producing new mint-weights to match each of the successive types as they were introduced.

The only possible candidate for this category of weight is *British Museum Sylloge* (*BMS*) 1255 (Archibald and Blunt 1986). It was produced in the reign of Anlaf Sihtricsson at York during the period *c.* 941–4, and is a lead disc weighing 3.86g struck with two official reverse dies by the moneyers Avra and Rathulf (also used for surviving silver pennies with regal obverses). Gifted to the British Museum in 1876 by A.W. (later Sir Augustus) Franks, its find-spot is unfortunately not recorded, although Franks is known to have travelled widely in the north of England acquiring antiquities. At approximately three times the weight of the contemporary local penny, it could be interpreted as a mancus weight and was listed, without comment, as a weight in the British Museum *Sylloge* (Archibald and Blunt 1986). I have listed it alongside other lead objects (weights included) struck from official coinage dies, most of which I interpreted as customs receipts (Archibald 1991b, 340, no. 10); Williams (1999, 19) excluded it from his listing of weights, noting that the possibility of it being a trial piece rather than a weight cannot be excluded; its status remains uncertain.

Even after they had begun to strike their own coins, there is no evidence for Viking use of individual penny-poises, which did not become common in England until the more developed monetary economy of the later medieval period.

(c) Testing for fineness

It is with the third aspect of testing, that of assessing the quality of the metal, that the present discussion is principally concerned. The fineness of gold and silver in Anglo-Saxon England could be tested in several ways. The first was by means of a touchstone (OE *cenningstán*). This procedure, which required considerable expertise, involved making marks with the object being tested on a fine-grained stone and comparing the colour with others made on it by controls of known fineness, later by means of acid and a set of touch-needles. Touchstones have been found in England from the Iron Age, and in Anglo-Saxon contexts from pagan graves onwards, including ninth- and tenth-century levels at Winchester (Oddy 1983; 1989; Campbell 2001, 113 and 124). No touch-needles of this period are known. In the past, touchstones have sometimes been mistaken for whetstones and further re-examination of such pieces may reveal additional examples. The touchstone method tests only the outer layer of metal, but plating and deliberate surface enrichment (as opposed to that induced naturally by long burial in the soil) were not common currency problems at this period. The touchstone method of testing is virtually non-destructive so it would be difficult, probably impossible, to recognise its use on coins after they had seen further circulation and acquired a patina like that found on the Cuerdale pieces. No reference to

touchstones has been found in Scandinavia for the period before 900 and, so far, none of the known touchstones with English provenances can be specifically attributed to the Vikings in ninth- and early tenth-century England, although the potential remains.

Destructive metal analysis by cupellation (fire-assay) requires more complex procedures and equipment than the other methods of testing (Campbell 2001, 110). The diagnostic cupels are found widely distributed in ninth- and tenth-century contexts in England, but it is difficult, especially where finds have been made by detectorists in the top-soil, without any archaeological stratification, to prove that cupels found on a site occupied by both Anglo-Saxons and Vikings can be attributed with certainty to the latter. Even in archaeological excavations the stratigraphical context can sometimes only provide a date-bracket such as 'ninth to tenth centuries', which is rather wide for the present purpose. Cupels have been recovered from ninth-century Lincoln and in tenth-century contexts at Northampton (*ibid*., 123), and from the late ninth- to early tenth-century Anglo-Saxon and Viking North Yorks 'productive site' (Williams, pers. comm.). More securely, cupels have been found in Viking contexts in York (Campbell 2001, 110). Cupellation was essential to the business of a mint so must have been familiar to the Vikings from when they first began to issue coins, although they probably initially employed Anglo-Saxon or Carolingian experts to carry out the work. A fragment of an Islamic coin from Cuerdale itself is described by Lowick (1976, 28, no. 29) as having been 'partly melted in a crucible hence its deformed shape' (**Fig. 3.2,24**). A penny of Edward the Elder shows similar evidence of melting, with tiny pieces of other coins adhering to its surface (**Fig. 3.1,12**). This method of testing a sample of coins would normally leave no trace on the rest of the parcel.

(d) Pecking

Invasive testing of individual coins during the Viking Age took different forms: bending; a range of pressure marks; scratches, scores, stabs and piercings with sharp implements; and knife cuts of various kinds on the edge or surface of the coins. Gullbekk (1991, 64) has drawn attention to references to coin-testing in early written sources, the *Codex Frisianus* mentioning 'silfpeningr' hui'tr i skor' (silver pennies white to the cut) (*Codex Frisianus* 95.28). An equivalent phrase appears in the thirteenth-century saga compilation *Heimskringla*, concerning 'silver pennies, of full weight and white in the fracture', or 'white to the cut', with reference to a transaction of the mid-tenth century (*Heimskringla* I*, Hákonar saga gráfels*, ch. 16, 221–2; Foote (ed.) 1961, 125–6; Graham-Campbell 1982, 32–3; 2000, 12–13; Williams 2007, 182–3). Versions of most of these techniques (except pecking) are found in earlier times, but were adapted to suit the thinner-flanned coins of the early medieval period.

One of the methods of testing most clearly defined both physically and geographically is that generally known by numismatists as 'pecking'. Pecking may be defined as the name given to a specific technique of testing whereby a small cut was made with the point of a knife into the surface of a silver (or gold) object at a shallow angle and then slightly raised, allowing the experienced user to feel the resistance of the metal and assess whether it was fine or debased. If the silver were adulterated with lead, the metal would feel softer; with copper it would feel harder. The resulting small cuts, characteristically half- or new-moon shaped, leaving sprues of metal initially proud of the surface of the coins, are known as 'pecks' (**Fig. 3.2,1**). While pecks are remarkably consistent they are not all identical, varying slightly in size and shape (**Fig. 3.2,10**). Like all deliberate test-marks, they must be carefully distinguished from accidental marks caused by cracks, guidelines, flaws or rust on the die, ghosting from the other side, double- and over-striking and accidental damage sustained before or after deposit.

It used to be believed that pecking and other tests were carried out to check that coins were not plated, but plated coins from the Anglo-Saxon period are rare. A few mercury-silvered forgeries on base-metal cores have survived but none so far on the broad metal coinage earlier than Æthelred II (Oddy and Archibald 1980), and some genuine coins have been described as false when, in fact, the supposed plating is just lamination of the silver (Harris and Griffiths 1999, 37–8; Screen 2007, 161). It has long been accepted that pecking was in fact carried out to test the quality of the silver. For the reasons outlined at the start of this study, the Anglo-Saxons did not test-mark their own coins; neither is pecking present on coins from early Viking hoards in England, the technique being particularly associated with coins and artefacts from Viking hoards and site-finds deposited during the later ninth to early tenth centuries. When and where the practice began is considered below, after the evidence of pecking on the Cuerdale coins has been examined.

Throughout the Viking world, some testing techniques were used widely while others were more regionalised, coins often acquiring a range of marks as they travelled over long distances through several political and ethnic regions. The Islamic dirhams in the Cuerdale hoard display characteristic edge and other cuts, bends and dents which they had acquired on the journey from the Caliphate and while in Scandinavia before they were brought across the North Sea to England, where a few pecks were sometimes added (**Fig. 3.2,23**). The Vikings brought their pre-pecking testing techniques to England with them and continued to use them as shown on a small proportion of the Cuerdale coins, alone or with pecks (**Fig. 3.1,17–18**; see further below). Even over the shorter distances within England, groups of coins and individual specimens of the same numismatic type present in a hoard such as Cuerdale can have different circulation histories, which affect their secondary treatment in terms of its extent and speed of acquisition. Unfortunately, it is rarely possible to quantify these factors in any detail.

One of the problems in researching the secondary treatment of coins and artefacts has been the great variety and inconsistency of the terms that have been used over the years to describe these features. Some types of mark tend to merge into one another so certain individual marks will remain difficult to classify. Absolute consistency is unlikely to be achievable, but it is clearly desirable to standardise the descriptive names given to main, broad categories of test-marks to allow written descriptions to be used with confidence and to facilitate comparison and the recognition of regional varieties. Considerable progress has already been made towards this goal. For coins, the most comprehensive scheme is

that set out in English at the beginning of each volume in the *CNS* series to which a few modifications have been made over the years. It should be noted in particular that in *CNS* 1.1–3 other kinds of cut test-marks were recorded as pecks (Malmer 1985, 51). Recent students have sought to amend and further define the techniques and terminology (Kilger 2006, 459–61).

Basis of this study

For the detailed investigation of test-marking, photographs and plates in publications are not really suitable, although they may be the only evidence available in the case of coins from dispersed hoards or other sources. Examination of the actual coins is necessary. The basis of the present investigation was the collections of the British Museum, the Assheton Cabinet at present on deposit there, the Ashmolean Museum, Oxford, the Fitzwilliam Museum, Cambridge, the National Museum of Wales, Cardiff, and the National Museum of Ireland, Dublin, all of which I have examined. It included both the coins which these institutions or their constituent collections had received in the Duchy donations made immediately after the Cuerdale hoard's discovery and other coins acquired later with a securely documented history back to the find. Not all of the coins in these collections feature in the discussions and charts as some specimens were not available for study and others examined were not suitable for the present purpose (e.g. incomplete and fragmentary coins, those with a patina so thick that it made counting of pecks problematic, and a few coins whose status was uncertain).

Ideally, every Cuerdale coin would have been sought out and examined, but this was not practicable. Many of the coins can no longer be traced, and others were not available for study or housed in distant museums, but the incompleteness of the material is not as damaging as might have been feared. The great majority of the coins of the rarer types were allocated to the British Museum and the Assheton collection, and the British Museum in particular also houses very large samples of the commonly represented types. A number of the rarities abstracted from the hoard at an early stage by local collectors (see above, pp. 39–41) and identified as *ex*-Cuerdale, principally through the work of Blunt (1983), have since made their way into the collections of these major museums and are included in the total studied. The distribution lists of the Cuerdale hoard coins (Appendix 3) show that the rare types were quickly exhausted and soon afterwards Anglo-Saxon issues of any kind ran out, so that parcels donated later comprised examples from the groups already well represented in the collections studied: the St Edmund type, the more plentiful of the York Viking issues and a few of the commoner Carolingian deniers. Most of the coins of 'Alfred' listed in these later donations were almost certainly Viking imitations, again already present in large numbers in the sample studied. Additional data obtained from other collections would thus be unlikely to alter the general overall pattern to any serious extent.

Other coins identified as originating in the Cuerdale hoard simply on the basis of the presence of pecking are not included in the present study. To include them would exaggerate the proportion of pecked coins at the expense of the (usually) greater number of unpecked coins that cannot be so securely attributed to the hoard. It was also decided to exclude those identified solely on grounds of type and patina, almost all of these again being of the varieties already well represented in the existing sample. As this discussion is based for the greater part on early selections made from the hoard, the possibility was considered of an in-built bias in favour of coins that nineteenth-century students may have considered 'in better condition' (i.e. those with fewer or no pecks), with a consequent under-representation of pecked coins. In the case of the rare types, however, duplication hardly existed so selection was not an option and, in some instances, a pecked coin would in fact have been in more desirable condition overall than an unpecked one. To test this, a comparison was made between the degree of pecking on some of the commoner types in the Assheton and British Museum holdings (taken together) and the same types in the later selections in Oxford and Cambridge (also taken together). In the larger populations the results were similar, although in the rare types sometimes coins in the first group were more pecked, sometimes the latter, so it would appear that no significant discrimination on these grounds had taken place.

This study is based on *c.* 1,800 coins. Although just under 25% of the estimated total of 7,500 coins, they are thus acceptable as broadly representative of the totality of the hoard, although anomalies in the pattern of pecking within the rarer types are likely.

Test-marks on Cuerdale coins

The coin element in the Cuerdale hoard is exceptional in the wide political and geographical range of its contents and the sequences of types represented in each series. Pecks account for the great majority of the test-marks on all types from the earliest onwards; for example, in a large random sample of the Alfred Two-Line type with the four-part obverse legend, issued from *c.* 880, over 93% of the test-marks present were pecks. In addition to pecks, the full range of other test-marks mentioned above is also found on the Cuerdale coins and may be accepted as the work of Vikings who had brought their homeland testing-techniques to England and used them there (**Fig. 3.1,17**). It is occasionally difficult to decide whether some of these other marks are deliberate or not. Edge-cuts are mostly confined to the Islamic dirhams, which had been brought to England from Scandinavia, but in a few cases they are also found on English and Carolingian coins (**Figs 3.1,18** and **3.2,14**). The occasional use of these marks other than pecks occurs throughout, but the most recent English and Viking types have usually just one or no pecks. No graffiti of the sort found on coins from Scandinavian finds (Welin 1956) have been noted.

Although in the early preparatory work different classes of test-mark were recorded separately, it proved impracticable in a survey of this nature to include figures for each category, as it would have involved ever smaller populations, increasing the danger of anomalies obscuring the main pattern. A decision on the recording of the individual marks on each specimen will fall to those eventually publishing the detailed listing of the individual coins. To count just the classic pecks and include a coin with no pecks but with a deliberate score and a cut in an 'unpecked' category would be misleading in a discussion of test-marking. These few additional test-marks have therefore been included with the pecks in the figures on which **Table 3.2**

and the bar-charts (**Figs 3.3–4**) are based. In addition to surface test-marks, the earlier coins are often, but not always, bent and buckled (**Fig. 3.1,6** and **18**). The later coins become progressively less marked in these respects until, by the latest types, most are flat or with a rare single bending (**Figs 3.1,13** and **3.2,10**). While these bends, etc., could have been reliably counted for the most recent types, no satisfactory way was found to count them accurately on the earlier coins, so these marks of testing have not been included in the figures. The extent of test-marking on coins in the Cuerdale hoard is thus actually a little greater than recorded here, increasing from the most recent to the earliest coins. This only serves to widen the progressive differences between the test-marking on the successive types discussed below.

As the number of coins in each type present in the hoard is so disparate, comparison and discussion is made easier if the representations are expressed as percentages in **Table 3.2** and in the bar-charts (**Figs 3.3** and **3.4**). The percentages are sometimes necessarily based on very low populations with the statistical dangers that involves, so the total number of coins involved in each case is noted. Samples of under fifteen coins are not included in the table and bar-charts, although some are discussed in the text. **Table 3.2** shows the percentages of coins in the principal types or ruler-groups with no pecks, one, two to five, six to nine and ten or more pecks. The bar-chart (**Fig. 3.3**) shows the percentage of coins that are pecked in each of the major types. It would be possible to break down larger types and groups in the tables into sub-types on chronological or other grounds, but the numbers of the populations rapidly become even less statistically viable and any anomalies more likely to distort the figures. They are therefore not included in the table, although some of them are discussed under the type headings below. Only pennies are included in the table; round halfpennies are omitted as their representation across the types is low and irregular.

The extent of pecking almost certainly varied over place and time and from one individual tester to another. Testing probably became less intensive as settled Vikings became more familiar with the Anglo-Saxon coins they regularly encountered and more trustful of the issues of their own rulers. However, as Kilger has pointed out (2006, 464–5), there is likely to have been an element of repetitive practice or even a ritualistic dimension to testing which would have perpetuated its use. These variables are difficult to quantify, although their possible effect is mentioned occasionally in the discussion. On some coins two pecks together or a line of pecks point to several having been applied at the same time (reverses of **Figs 3.1,6** and **3.2,10**) but, as clear cases are comparatively rare and there may be other less obvious instances, no account is taken of this and all the pecks are counted individually (cf. the practice of testing ingots, often with pairs of nicks, described below, p. 79). In the case of Cuerdale, this is of minor consequence because, overall, most of the tested coins in the hoard bear only one peck – and the majority none at all.

As the majority of the Cuerdale coins are not pecked, it is clear that not all coins in a parcel were tested by the Vikings on each occasion. While it appears that coins may have been chosen for testing at random, or in accordance with an established routine (every twelfth coin or whatever), some were clearly picked out for special attention. The plentiful Viking copies of Alfred's Two-Line type with four-part obverse legend include 19% unpecked, but of the fifteen coins in the British Museum tray so blundered that the moneyer's name is quite undecipherable all are test-marked (**Fig. 3.2,11**). It is clear that coins were often carefully examined. Usually it is coins of abnormal appearance that have been selected (**Fig. 3.2,9**), but in some cases the reason is not so self-evident. Kilger has noted (2006, 460–2) that in Viking hoards from Scandinavia pecks were often applied along the fold of a bent coin. Some Cuerdale coins share this feature (**Figs 3.1,7**, **3.2,10** and **23**), but it is not common. On most, the pecks have been applied on the flat field of one or both sides of the coin, less often on the relief of the design or inscription. On the Carolingian series, in contrast, the usual single peck is often applied to an arm of the cross, although it can also appear in the field between the arms (**Fig. 3.2,12** and **15**). Reverses are often preferred, apparently because they generally have larger open areas of field than the busier obverse designs. It may be that, when they had the choice, most of the testers involved here found it easier to assess the quality of the silver on places where the metal was smooth. In the hoard are found only those coins that have passed the test. There is no way of knowing how many were rejected, but they add to the percentage of the pecked coins.

The equipment necessary for pecking was simple – a knife, carried by every adult Viking male – but the ability to choose the most appropriate coins to check and to assess the quality of the silver would have required considerable skill and practice. No doubt almost anyone could master the technique with time, and the inexperienced attempted it when pushed, but some specialists were probably employed to perform this task, as they were throughout history from the coin-testers in the Greek marketplace recorded on an Athenian stele (Stroud 1974) to the *shroffs* depicted in nineteenth-century Chinese prints and whose ingot-testing activities were described by travellers (Cribb 1992, 28, 35, fig. 9, and 37, fig. 11). The other miscellaneous test-marks on the English coins were probably those made *ad hoc* by less practised operators who stuck with the old ways brought from the Scandinavian homelands.

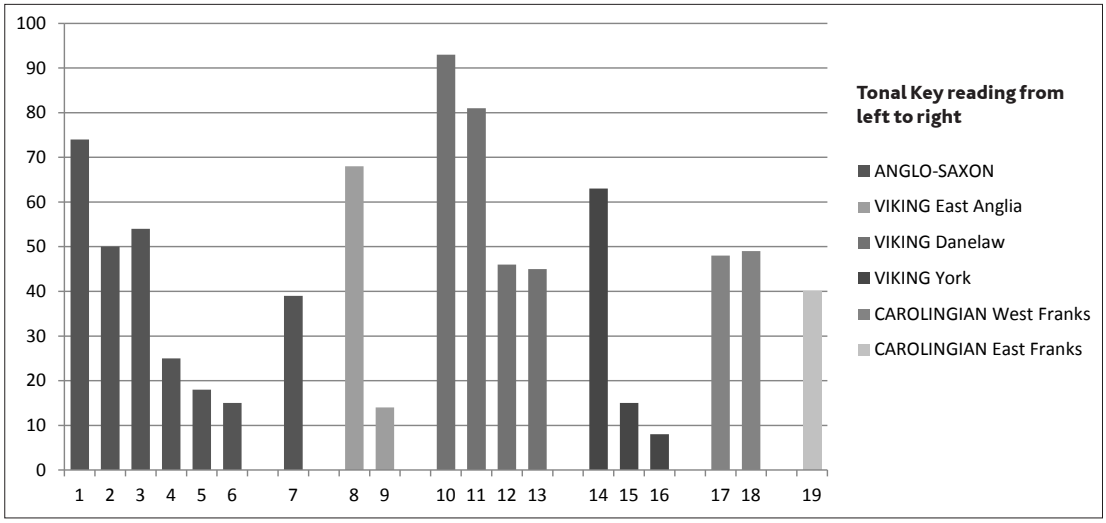
The extent of pecking depends on the circulation history of the different groups of coins making up the hoard. The coins of one of the types included may have reached Cuerdale rapidly from Anglo-Saxon England in large or small parcels at the start of an issue or years later at its end; some could have passed through relatively few hands while others may have been exchanged frequently, been divided and mixed with earlier parcels, remained immobile for a time in a treasure chest or made long detours, acquiring fewer or more pecks in consequence along the way. Coins may be more heavily pecked because they had remained for longer in areas where coins were less familiar and therefore more heavily tested or passed through the hands of some abnormally distrustful character, who tested three times as many coins as most of his contemporaries. Occasionally, such elements of circulation history may be surmised but, in most cases, they are not knowable. Despite all the unquantifiable effects of such variables, and the small size of some of the samples on which the representations are based, the pecking on the Cuerdale coins presents a remarkably coherent pattern.

For the development of the constituent coinages, their dating and research references, see Williams above (pp. 42–51

Table 3.2 Pecks on Cuerdale coins expressed as percentages of the sample total

	Sample no. of coins	0 pecks	1 peck	2-5 pecks	6-9 pecks	10 or more	Total % pecks
Anglo-Saxon							
Alfred and Ceolwulf II							
Cross-and-Lozenge	15	26	13	34	14	13	74
Alfred							
London Monogram	17	50	13	25	6	6	50
Two-line, 4 part obv.	213	46	18	22	4	10	54
REX DORO	34	75	16	9	-	-	25
Two-line, 3 part obv.	27	82	11	7	-	-	18
Edward the Elder							
All types	40	85	13	2	-	-	15
Archbishop Plegmund							
All types	41	61	25	12	-	-	39
Viking							
East Anglia							
Æthelstan/Guthrum	23	32	9	27	5	27	68
St Edmund	566	86	10	4	-	-	14
Danelaw							
Alfred copies:							
London Monogram	15	7	13	60	-	20	93
Two-line, 4 part obv.	53	19	11	42	11	17	81
ORSNAFORDA	59	54	29	17	-	-	46
REX DORO	49	55	45		-	-	45
York							
Mirabilia/DDOR	35	37	26	-	-	3	63
Cnut/Ebraice	107	85	12	13	-	-	15
Cnut/Cunnetti	218	92	6	2	-	-	8
Mirabilia/Ebraice	33	100	-	-	-	-	0
Mirabilia/Cnut	24	100	-	-	-	-	0
Carolingian							
West Frankish							
Odo	38	52	16	26	6	-	48
Charles the Simple	59	51	25	17	7	-	49
East Frankish							
Louis the Child	17	60	21	19	-	-	40

Figure 3.3 Percentages of pecked Cuerdale coins in the principal types



Key	Sample: no. of coins
Anglo-Saxon	
Alfred and Ceolwulf II	
1. Cross-and-Lozenge	5
Alfred	
2. London Monogram	6
3. Two-Line, 4-part obv. legend	213
4. REX DORO	34
5. Two-Line, 3-part obv. legend	27
Edward the Elder	
6. All types	40
Archbishop Plegmund	
7. All types	41

Sample: no. of coins	
Viking	
East Anglia	
8. Æthelstan/Guthrum	23
9. St Edmund	566
Danelaw copies of Alfred types	
10. London Monogram	15
11. Two-Line, 4-part obv. legend	53
12. ORSNAFORDA	59
13. REX DORO	49

Sample: no. of coins	
Northumbria	
14. MIRA/ DDOR	35
15. Cnut/Ebraice	107
16. Cnut/Cunnetti	218
Carolingian	
West Frankish	
17. Odo	38
18. Charles the Simple	59
East Frankish	
19. Louis the Child	17

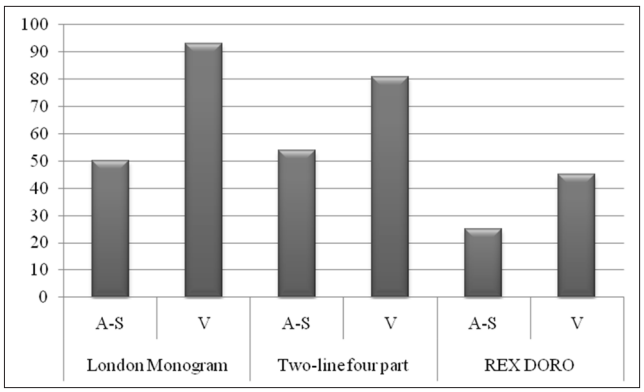


Figure 3.4 Percentages of pecked Cuerdale coins in Anglo-Saxon types and Viking copies

and 64–67). The following commentaries on the pecking in the main groups represented in the Cuerdale hoard should be read with reference to **Table 3.2** and the bar-charts (**Figs 3.3–4**).

(1) Anglo-Saxon issues

(a) The earliest coins

The earliest coin in the hoard is in fact the Byzantine hyperperon of Heraclius and Heraclius Constantine (615–30), which is heavily worn, with multiple test-marks of the pre-pecking types acquired on its travels along the eastern trade routes through Russia and Scandinavia (**Fig. 3.2,21**). All the English coins in the hoard, except one, date from after the restoration of a fine silver coinage by Alfred of Wessex and Ceolwulf II of Mercia *c.* 875. The earlier coin is not from the immediately preceding Lunettes issue, of which the metal latterly contained little silver, but it had abnormally survived, or been restored to currency, from the previous phase of coinage when the silver was of a higher standard, if already somewhat debased (as demonstrated on the Cuerdale specimen by a patch of green corrosion). It has not been analysed. This, the oldest English coin in the hoard, is a penny of Ceolnoth, Archbishop of Canterbury, 833–70, struck during the first phase of his coinage before *c.* 850 (**Fig. 3.1,14**). It is flat, slightly chipped, and has six test-marks, three classic pecks and probably three other cuts. This tally is compatible with the pecked representatives of the Cross-and-Lozenge type, the first substantive post-reform group in the hoard, with which it had probably been circulating when it was first pecked. It is significant that the coin had passed muster several times, so either the testers concerned were unable to distinguish between fine silver and slightly adulterated silver, or were prepared to include the latter within the range that was acceptable. In contrast, what is probably the next oldest English coin in the hoard is flat and unpecked. It is from the celebratory issue struck in common for the kings of Wessex and Mercia, following the reform, and is the only recorded example of the Two Emperors type for Ceolwulf II (in the Assheton collection; **Fig. 3.1,2**). The absence of pecks on a single representative is still within the normal pattern, as one in four of the coins of the first substantive type issued after *c.* 875, about to be discussed, is also without them.

(b) Alfred (871–99) and Ceolwulf II (874–79?)

The Cross-and-Lozenge coins were the first substantive type for Alfred (**Fig. 3.1,4**) and Ceolwulf II (**Fig. 3.1,3**) following the reintroduction of a fine silver coinage *c.* 875 (North [1994] 629–31 and 429). The coins of both rulers considered together numbered only fifteen pieces. In this sample, 74% of the coins are pecked; only 26% are unpecked and the remainder show extensive pecking, 13% with ten marks or more. This, the earliest in the hoard, is the most extensively pecked of the English types.

The unique Voided Cross/Quatrefoil type of Alfred (North 634) in the Assheton cabinet bears two pecks. The next type represented in any number is the London Monogram type (North 644 and 646), probably a celebratory issue produced intensively over a relatively limited period. In the sample of only sixteen coins, just 50% are pecked (**Fig. 3.1,6**), with 50% not having been pecked; the former still show substantial pecking, but less than those in the previous Cross-and-Lozenge group. With the London Monogram type began the series of imitations of the Anglo-Saxon issues struck in the Danelaw, which are generally distinguished by lower weight, distinctive style and, in some cases, by local moneyers' names. These imitations are considered, separately from their prototypes, with other Viking coinages below.

The Two-Line type, the substantive series of the coins introduced *c.* 880, marked not only the introduction of a heavier weight standard of *c.* 1.6g, but also the abandonment of the system of distinctive short-lived types for one which lasted, with minor variations, for the rest of Alfred's reign (to 899) and beyond. The first major group within this type, represented by a larger and more reliable sample of 213 coins, has the obverse legend divided into four sections and is without mint signature (North 635–7; **Fig. 3.1,9**) of which 54% are pecked. If the type is broken down into its regional stylistic groups (based on the British Museum collection only, but with coins whose status is uncertain omitted), the coins struck in Canterbury include 42% pecked, London, 57% pecked and the other Mercian coins 64% pecked. While not relying too much on precise figures, it appears that coins struck nearer the Viking areas where testing was taking place were more pecked than those from further away, which took longer to reach them.

The official coins of Alfred of Oxford with the mint signature *Ohsnaforda* are rare. In a sample of three coins, two are unpecked (**Fig. 3.1,8**) and one has two pecks. The coins of the Two-Line type with the explicit mint signature DORO for Canterbury, after the king's title on the obverse (North 638), have just 25% pecked and relatively few have more than a single peck (**Fig. 3.1,11**, with no pecks and one scratch). This pattern is significantly different from that of the Two-Line group with four-part division of the obverse legend, which included a high proportion of unsigned coins of Canterbury and confirms the later place of the DORO group in the Two-Line series.

The latest of the Two-Line sub-types of Alfred with the obverse legend divided into three sections, instead of four (North 639), and no mint signature – but from dies cut at Winchester – includes just 18% pecked coins, 82% unpecked with only a few pecks on the others. The mint-signed issues of Exeter, Gloucester, Winchester (**Fig. 3.1,7**, with one peck on a bend) and Oxford are not present in sufficient numbers to provide meaningful statistics in this study.

(c) Edward the Elder (899–924)
The coins of Edward the Elder, the latest Anglo-Saxon coins in the hoard, taking both Two-Line and Portrait types together (North 649 and 651) total forty coins in the sample and have 15% pecked, many completely flat and rarely with more than a single peck. The latest coins from the beginning of the second phase of Edward's coinage are too few to be treated separately statistically but show fewer pecks than those of the earlier period, although even they are not completely peck-free (**Fig. 3.1,12**). This shows that the Edward coins had not reached the Vikings as a single 'parcel', but that some at least of his earlier coins had been in their hands before the very latest ones arrived. All Edward's coins were struck after 26 October 899, but there is no independent dating for the start of the second phase represented in Cuerdale, other than the *terminus ante quem* (*taq*) provided by their presence in the hoard. As a group, the coins of Edward are noticeably more pecked than the Cnut/Cunnetti coins, the latest major group among the issues of Viking York in the hoard, which have only 8% pecked. The latest of Edward's coins are in extremely fine condition, but the York coins are virtually mint so the significant difference in the extent of pecking was not a case of the 'local' coins being more familiar and therefore less pecked than the Anglo-Saxon ones. The straightforward explanation remains the most likely, namely that the majority of Edward's coins in the hoard had been struck slightly earlier than the latest York issues and had had a little longer in circulation in the Viking sphere to acquire additional pecks before their final deposition at Cuerdale.

(d) Archbishop Plegmund (890–923)
The coins of Archbishop Plegmund include 39% with pecks in a sample of forty-one. The figure is based on all the varieties of his Two-Line type present in the hoard. Breaking this down, the Two-Line type without mint name (North 253, twenty-two coins) has 46% with pecks, lower than those of Alfred at 54%, but the king's issue had started at least five years earlier. The Plegmund DOROS (North 254, fifteen coins) at 40% are significantly more pecked (**Fig. 3.1,16**) than the Alfred DORO issue at 25%, and closer to the DORO Danelaw imitations with 45% pecked. Of Plegmund's XPF issue (North 255, four coins) none were pecked. The Viking testers appear to have viewed Plegmund's coins in a similar way to the Danelaw imitations, more suspiciously than Alfred's issues. This pattern seems to suggest that they were able to recognise the difference between the two, if not exactly to recognise that the name was other than the familiar one of the West Saxon king.

(2) Viking issues
For discussions of the imitative series of this period, see Blackburn (2005; 2006), and Garett Williams above, pp. 42–3 and 47–9.

(a) East Anglia

(i) Guthrum/Æthelstan (880–90)
The first Viking to place his own name on his coins was Guthrum of East Anglia using his baptismal name of Æthelstan (North 479), copying the contemporary Two-Line type of Alfred with the regal name and title divided into four parts. Of a total sample of 23 coins, 68% are pecked (**Fig. 3.1, 17** and **18**), only 32% are unpecked, and 27% have ten pecks or more, the latter the highest percentage in this class in the hoard. They are more heavily pecked than the official Alfred prototypes at 54% pecked, but less so than the direct imitations of the same type in Alfred's name from the Danelaw at 81% pecked (see below, p. 60). The hoard from Ashdon, Essex (see below, p. 63), suggests that not all the Viking settlers in East Anglia immediately accepted the quality of the coins issued by their own rulers without testing them, and so some of the pecks on the Cuerdale coins were probably acquired in local circulation before they reached the hands of other Vikings in the Midlands and the north.

(ii) St Edmund
The St Edmund series (North 483) issued from *c.* 895 was the most numerous group of coins in the Cuerdale hoard and the sample studied here comprised 566 coins. Only 14% of the group as a whole is pecked, 86% are not pecked and only 4% have more than a single peck. Early coins with small neat letters, extended and fully literate obverse and reverse legends are relatively rare in the hoard and are slightly more heavily pecked (**Fig. 3.1,19**) than the much more plentiful later ones (**Fig. 3.1,20**). There are too few of the early coins to influence significantly the overall figure. The 14% pecking among the St Edmunds may be compared with the 18% in Alfred's latest Two-Line type with three-part division of the obverse legend and 15% of Edward the Elder. Unusually for a contemporary Viking coinage, the St Edmunds are marginally less pecked than the latest major Anglo-Saxon groups. Too much should not be made of these differences, especially as figures for the Anglo-Saxon groups are based on much smaller populations, but the pattern of pecking on the St Edmunds would appear to support the traditional view that a large parcel of St Edmund coins (probably including a high proportion of recent issues) had been sent from East Anglia into the northern Danelaw shortly before the deposition of the hoard. Some of the more heavily pecked earlier varieties may have reached Cuerdale earlier through normal circulation in the Danelaw but they, and even the more recent coins, could have acquired some of their pecks circulating at home before leaving East Anglia.

(b) The Midlands and Northumbria

(i) Alfred copies
The Viking copies normally attributed to the Midland area are distinguished from their prototypes by their lower weight standard and different, generally poorer, style. While it is clear on which side of the line most coins fall, there are a few whose status, in the absence of a die-study, remains uncertain and such are excluded from this exercise.

It does not appear that the Vikings copied coins of the Cross-and-Lozenge type struck for both Alfred and Ceolwulf II, which, as noted above, reached them in significant numbers. Within a few years the increasing need for coin in a dual economy saw them copy coins of Alfred's London Monogram type issued from *c.* 880. The Viking coins (**Fig. 3.2,9**) are traditionally attributed to mints in the Midlands but were perhaps also produced elsewhere (see Williams above, pp. 47–9). The coins of this group include 93% pecked, the highest level of pecking in any type in the hoard, compared to just 50%

of the originals. Viking copies more pecked than their prototypes is a recurring feature of the hoard (see **Table 3.2**). One reason for this difference is probably that the copies had been circulating in Viking areas from the day of their issue, while the Anglo-Saxon coins had only started to be pecked when they arrived there some time later, on various occasions throughout the type's period of currency. Particularly blundered or barbarous-looking copies probably attracted above-average testing, but all copies appear to have been more suspect than their prototypes.

The Vikings also copied the next substantive Anglo-Saxon type issued by Alfred, the Two-Line type with the king's name and title divided into four sections (North 475) introduced *c.* 880. Of the sample of fifty-three coins of this issue 81% are pecked, against 54% of the prototypes. Fifteen copies of this type in the British Museum tray are so blundered on the reverse that the name of the original moneyer cannot be identified; every one of them is pecked, and six coins (40%) have ten pecks or more (**Fig. 3.2,11**). This shows once again that the Vikings were picking out abnormal-looking coins for testing. A sample of fourteen Alfred copies of this type with local Danelaw moneyers' names include 86% pecked (**Fig. 3.2,10**), 14% with no pecks, 14% with just one peck and 22% with ten pecks or over. Given the smallness of the sample, these figures are similar to those of the rest of the type so there appears to have been no difference in the treatment of these coins.

In a sample of fifty-nine coins, the Oxford copies with the ORSNAFORDA legend (North 472), the second letter, 'R', replacing the original 'H', have 46% pecked (**Fig. 3.2,8**). The forty-nine REX DORO copies (North 417, var.) have 45% pecked compared to the originals with 25% pecked, again conforming to the pattern of the originals being less pecked than the other sub-types and confirming the place of the DORO coins late in the sequence.

(II) VIKING NORTHUMBRIA

The coins struck for the Viking rulers in York from *c.* 895 present a complicated mesh of die-linked types (Lyon and Stewart 1961) and only select groups are examined here. The sample of nine coins of the York/Sievert group struck on smaller flans with smaller letters of the Two-Line type with the long cross-on-steps between (North 492) had a maximum of three pecks but 56% pecked (**Fig. 3.1,22**). The similar Two-Line type without a cross between (North 489) has a greater number of pecks; two of the five relevant coins had eight and five pecks respectively. The pecks on these groups of Siefred coins indicate that they are among the earliest coins in the York series. The sample of 107 coins of the Cnut/Ebraice group (North 497) are 15% pecked (**Fig. 3.2,1**), and 218 coins of the Cnut/Cunnetti group (North 499) are only 8% pecked (**Fig. 3.1,24**). The most heavily pecked of the York issues is the MIRABILIA FECIT/DNSDSOREX type (North 509). Out of thirty-five coins, 63% were pecked (**Fig. 3.2,3**), 37% were unpecked, 26% had only one peck, and the remaining 3% had ten or more pecks. The exceptional non-regal types may partly account for the unusually high figure for pecking, but it also suggests that this group was probably early in the series. The intact coin of Alwaldus with similar reverse in the British Museum has two pecks (**Fig. 3.2,4**) and the fragmentary piece in the Assheton collection has one peck visible. This is perhaps rather an unexpected level of testing for coins produced after Æthelwold, son of Æthelred I of Wessex, Alfred's brother, had been accepted as king in Northumbria in 900 and before his death two years later, but the rather aberrant style of these two coins may have caused them to be selected for pecking. Coins on larger flans with the names of both Siefred and Cnut are virtually without pecks and would therefore appear to be late in the series.

(3) Carolingian issues

In the West Frankish kingdom, some difficulty still remains in distinguishing the coins attributable to different Carolingian kings with the same name, particularly 'Charles'. In the case of Cuerdale, the question is whether any of the coins in the name of Charles can be attributed to the lifetime of Charles the Bald (840–77) or whether they all belong to his immobilised GRATIA DEI REX type struck during the reign of Charles the Simple (897–922). The classification set out by Grierson and Blackburn (1986, 247) is followed here; in their opinion, the coins in Cuerdale must be 'virtually all' of the period of Charles the Simple (897–922) (**Fig. 3.2,16**). From a sample of fifty-nine coins, 49% were pecked, 51% not pecked, 25% with only one peck. Among coins with generally no more than two pecks, a few more heavily pecked stand out: Dolley and Morrison 1966, nos 99 (**Fig. 3.2,15**), 110, 123 and 149. These coins are on smallish flans, but other similar coins on smaller flans have the usual low number of pecks and the higher level of pecking may just be the result of a different circulation history after their arrival in England, multiple testings on the same occasion, or of other fortuitous factors (such as the fact that no. 99 (**Fig. 3.2,15**) had been pierced).

The attribution of the coins of Charles the Simple's predecessor, Odo (888–97), a member of the Robertian (later Capetian) dynasty, are not in doubt. In a sample of thirty-eight coins from the hoard, 40% are pecked, 60% are not pecked (**Fig. 3.2,17**); 16% have one peck. The pattern of pecks is so similar to the coins of Charles that it is clear that, unlike the successive Anglo-Saxon and Viking issues, these two groups were not pecked in sequence as they were issued but together at the same time. This supports the traditional view that most of these coins reached Viking hands during the raid on Aquitaine in 898 and that few had been acquired over a longer period on other raids.

Carolingian coins had also been acquired by the Vikings in the Netherlands from mints in the East Frankish kingdom (Germany) and Italy. In a sample of seventeen coins of Louis the Child (899–911) from the East Frankish kingdom, 40% are pecked (**Fig. 3.2,14**), 60% are unpecked and 21% have one peck, with none over five. This group is more heavily pecked that the contemporary Anglo-Saxon issues of Edward the Elder, but they had probably changed hands more often before reaching Cuerdale. The hoard includes a few coins of the Kingdom of Italy, for Lambert (892–98), and Berengar I, as king for the period 898–900, which bear from no pecks to two. The two latest coins of Berengar examined, on small flans (which continued into the post-Cuerdale phase of his coinage as emperor), are not pecked (**Fig. 3.2,18**). Of the two Italian coins examined of Louis the Blind as emperor (901–5), the larger has one peck (**Fig. 3.2,12**) and the smaller, although rather corroded, seems to have none.

(4) Islamic

Most of the extant Islamic dirhams from Cuerdale were published by Nicholas Lowick (1976). They display pressure-mark testing, bending, and edge-cuts, acquired before they left Scandinavia, and the occasional peck or pecks applied after they arrived in England as they were routinely tested alongside other coins reaching local Viking hands (**Fig. 3.2, 23**). The Islamic group includes a high proportion of fragmentary pieces and so is not suitable for the present type of statistical analysis.

(5) Summary conclusions

The great majority of the Cuerdale coins are not pecked or otherwise test-marked. The pattern of pecking proves conclusively that all the coins in a parcel were not tested each time coins changed hands. Accepting occasional multiple testing on a single occasion, the number of pecks present still greatly under-represents the number of transactions in which each coin had been involved, but it remains true in general terms that the greater the number of pecks the greater the likely number of these transactions.

As a general rule, in all the English and Viking series, the older the coins the greater the pecking, but the level of pecking was greater in the Viking issues. The coins of Viking rulers were sometimes pecked by their own subjects in East Anglia, the Midlands and Northumbria. The available evidence comes from coins that have passed the testing of their metal. We do not have evidence for the proportions of coins that may have been rejected, and the Ceolnoth penny shows that coins below a fine-silver standard were occasionally acceptable. It has been noted that the rate of pecking may not have remained uniform throughout the thirty or so years represented by the types in the hoard, but by far the most important factor in the progressive decline in pecking from the oldest to the youngest coins in the hoard is that the younger coins had been in circulation for a shorter time and had changed hands less often. The pecking on the coins in Cuerdale, showing that the earlier the type the greater the degree of pecking, reproduces the pattern noted in the Scandinavian hoards of the later tenth and early eleventh centuries, in particular the exponential curve of the pecking on the English coins present in them (Metcalf 1985).

All the Anglo-Saxon issues in Cuerdale were not current together in Anglo-Saxon England, where a superseded type disappeared rapidly from currency when the new type was introduced, particularly when the weight standard was changed. The coins of the early pre-880 Alfredian types must have reached Viking hands during each of their successive periods of production and began to be pecked during those times. Once each had been replaced in Anglo-Saxon England, no more would have been available to supplement those already in Viking hands. Each type then continued to be pecked in the Danelaw alongside the successive new Anglo-Saxon types that joined them in the Viking coin-stock. When Viking rulers in East Anglia and the east Midlands began to issue their own coins, they apparently followed Anglo-Saxon practice in trying to exclude foreign coins (i.e. Anglo-Saxon ones) from circulation. The position in York just after the introduction of a Viking coinage is unclear as there are no suitable hoards on which to base an assessment, but the policy and practice are likely to have been similar. The mixed content of the coin-element in Cuerdale is exceptional in this respect also and represents accumulated treasure as well as coins recently acquired from contemporary currency in Anglo-Saxon England and the Danelaw.

The origin of pecking

The pecking on coins from hoards and relevant isolated site-finds found outside England will be outlined as background, before considering the English evidence in greater detail. The object here is to show that the phenomenon of pecking is not found anywhere earlier than it is in England. For the non-British evidence the writer has largely relied on the publications of local specialists and their personal advice.

(a) The Northern Lands

Multiple pecking is particularly associated with English and German coins in the plentiful tenth- and eleventh-century hoards from Scandinavia, Poland and other states around the Baltic. While other test-marking techniques are already represented in the hoards of the ninth or early tenth century from these areas, classic pecks are absent. Among the early finds, some Carolingian and English coins survive mounted as jewellery. A few others that have escaped the melting pot are found intact or as cut fragments, both as isolated site-finds and in hoards, including mixed groups with artefacts, and in grave deposits. None of them is pecked. An early example is provided by the Hoen hoard, in Norway, deposited during the second half of the ninth century (Wilson in Fuglesang and Wilson (eds) 2006, 15–17), including an assemblage of gold and silver coins mounted as pendants, amongst which are one Islamic dirham, two Carolingian deniers and one Anglo-Saxon penny, all without pecks (Skaare 1976, 134–5, no. 33; Skaare in Fuglesang and Wilson (eds) 2006, 165–72, nos 65, 72–3 and 74). A Swedish hoard from Häljarp, Tofta, Skåne, with a *terminus post quem* (*tpq*) of 840 comprises thirty deniers, exclusively Carolingian, and several ornaments, all again without pecks (*CNS* 3, Skåne 4, no. 40, 95–6). Islamic silver dirhams appear to have begun to arrive in the Baltic area by way of the trade routes through Russia in the early ninth century, and then spread into Scandinavia from east to west around the middle of the ninth (Kilger 2006, 452). An example of an all-Islamic hoard from Fittja, Uppland, Sweden, was deposited *c.* 863–4; the 136 coins present bear other marks of testing but not pecks. Classic pecks do not appear to feature on coins in Scandinavian hoards deposited earlier than the hoards from Ramløse (deposited 930s) and Grisebjerggård and Terslev (940s) (Blackburn 2009, 51).

(b) The North European mainland

Until recently there were relatively few finds that could be associated with the well-documented Viking relations with the Netherlands in the ninth century. The increased archaeological evidence now available, together with the products of metal-detecting (still largely comprising isolated artefacts and single Islamic coins), has been discussed by Besteman in the context of his accounts of two exceptional mixed Viking hoards of artefacts and coins (found in the mid/late 1990s) at Westerklief, in the municipality of Wieringen, which was – in the ninth century – an island in western Frisia (Besteman 1999; 2004a; 2004b). Westerklief I, deposited *c.* 850, contained nine

items of complete silver jewellery, three ornaments made from Islamic coins, seventeen ingots and seventy-eight Carolingian deniers. None of the contents was pecked. Westerklief II, from the same field, was deposited *c.* 880, and contained one complete ingot, twenty-four pieces of hack-silver (including parts of ingots), ninety-five Islamic coins or imitations (many fragmentary), thirty-nine Carolingian silver deniers and an imitation gold solidus of Louis the Pious mounted as a brooch. Besteman concludes that the Carolingian coins were in both cases added from local currency to the rest of the material which has a Scandinavian, particularly Danish, character – and that these other components are likely to have been brought south by successive Danish settlers, between 850 and 885, when western Frisia was controlled by Danish warlords recognised by the Carolingians. Some of the Islamic coins, ingots and hack-silver in Westerklief II display the usual range of test-marks known from finds in Denmark (their probable source), but neither they, nor the added Carolingian coins, bear any classic pecks (Besteman 2004a; Gareth Williams and Arent Pol, pers. comm.).

The Viking settlement of northern France began, from an English point-of-view, rather late. It did not effectively start until after the period of Cuerdale, when Rollo was granted the Lower Seine area by the Frankish king, Charles the Simple, in 911/12; further grants of adjacent territory followed in 924 and 933. Moesgaard (2007, 117; 2010, 125–8) shows that the Viking rulers did not introduce any element of a bullion economy but followed the prevailing Frankish system in which pecking had no place. Even after his extensive researches, Moesgaard knew only of a single coin with one peck, probably of local provenance, although it cannot be proved. It is unknowable whether the Viking who made this mark was a resident of Normandy, but in view of the absence of other evidence for the practice, he may have been a visiting trader from a Viking community overseas where pecking was regularly practised. Moesgaard (forthcoming) will shortly publish a wider survey and has kindly confirmed to the writer that the evidence for pecking nowhere antedates its appearance in English finds.

(c) Ireland

Of all the areas of Viking involvement, Ireland is especially relevant here as the majority of the artefacts in the Cuerdale hoard, both intact and represented by hack-silver, belong to archaeological types originating there (as discussed below, in Chapters 4–6). Although recent research has considerably expanded the list of Irish hoards and, to a varied extent, reconstructed their contents (Kenny 1987; Sheehan 1998a; 2004; 2007), their usefulness for the present purpose is limited. The secondary treatment of individual coins, whether from hoards or isolated finds, was rarely recorded at the time of discovery and, unless coins from such hoards are still extant and identifiable (or good photographs or casts of them exist), the necessary details cannot be retrieved. I have recently studied all the coins from Irish hoards and site-finds of the period in the collection of the National Museum of Ireland, Dublin, and this has caused me to revise views expressed in earlier articles (Archibald 1990; 2007).

An earlier ninth-century hoard from Delgany, Co. Wicklow, deposited *c.* 830, of which a large parcel survives in the British Museum, does not include any pecked coins (Pagan and Rhodes 1962). The earliest Irish hoard to show classic pecking is that known as Dysart (no. 4), found in 1980 on the western side of Dysart Island, Lough Ennell, Co. Westmeath, in an area held by the Irish not by the Vikings (Ryan *et al.* 1984; Kenny 1987). The numismatic element comprises about forty-five coins, of which many are represented only by fragments and are thus unsuitable for the type of statistical analysis carried out here on the contents of Cuerdale. They comprise nineteen Islamic coins, two Carolingian deniers from German mints, one fragment from Alfred's post-880 mint-signed series, nine coins of the St Edmund issue, and seven coins of Viking York. The Islamic group includes at least eight coins of the Samanid dynasty, the latest of AH 290 (AD 902/3), and two coins of Viking York from the first phase of the St Peter type, neither of which groups are present in the Cuerdale hoard. As Michael Kenny has pointed out (1984, 361), Dysart (no. 4) was clearly concealed later than Cuerdale, and he placed its deposit *c.* 905–10. This dating was proposed when Cuerdale was being dated *c.* 903 so that, if the date of Cuerdale is to be advanced to *c.* 905–10 (as proposed by Williams below, pp. 64–7), the date-bracket for Dysart (no. 4) could possibly be affected. For the purposes of this section, however, it is the fact that Dysart (no. 4) is later than Cuerdale that is important. The English coins here are (apart for one fragmentary stray survivor) all Viking issues, and the strong element of Anglo-Saxon coins present in Cuerdale is absent, not just the earlier types but also the later coins of Alfred and Edward the Elder. Even allowing for the slightly later deposition date of Dysart (no. 4), it is evident that its coin-content did not derive from the same stock as Cuerdale. Unfortunately, there are no other hoards of the same period from Irish or Viking contexts in Ireland with which Dysart (no. 4) may be compared. The non-numismatic items in the two finds also differ in that those in Dysart (no. 4) are less pecked than those in Cuerdale; in addition, there is no evidence that the Irish hoards comprising pecked artefacts alone can be dated before Cuerdale (James Graham-Campbell, pers. comm.).

Isolated coin-finds from Viking-age Ireland dating before 900 are rare. Among the otherwise fairly numerous coins from the Dublin excavations, there is just one coin issued prior to this date, a penny of Alfred's London Monogram type which is without pecks (Wallace 1986, 209–10). A single isolated coin is of limited value for the present purpose. It is not possible to say whether the unpecked state of this one coin is representative of the currency in Viking Dublin at that time; one in two coins of the London Monogram type in Cuerdale is also unpecked. The deposition date of the Dublin coin could also have been some time later than its date of issue, like the Alfred fragment in Dysart (no. 4), a stray survivor of West Saxon issues otherwise absent from a hoard of Viking and foreign coins. There are no coins from the Dublin excavations of the other groups represented in Dysart (no. 4), and there are no pecks present on the increasingly plentiful Dublin excavation finds of English coins issued between 900 and the start of the Irish Viking coinage *c.* 995. To sum up, the limited Irish evidence provides no reason to suggest that the practice of pecking began in Ireland earlier than it did in England.

(d) England

In England, test-marks other than pecking occur on some early imports but, with only a few exceptions, they are not found

later on Anglo-Saxon coins from Anglo-Saxon contexts (Archibald 1990, 11–12). Classic pecking is confined to a number of hoards and a few site-finds associated with Viking activity, but not in fact from the start of Scandinavian contact with England. During the early raiding phase in the late eighth and early ninth centuries, English coins were made of good-quality silver and the few of those brought back to Scandinavia that survived the melting pot are not pecked (Skaare 1976, 45). In the third quarter of the ninth century the Lunettes type – then current in England – became increasingly debased, but the coins in the plentiful hoards from all over England associated with the activities of the 'Great Army' after its arrival in 865 are, without exception, flat and unpecked. It is not always clear whether particular hoards of coins were deposited by Anglo-Saxons or invaders, but in several cases the association of other objects in the find, or its context, establish Viking ownership, and in them the Lunettes coins are also flat and without test-marks. They include the mixed hoard of an estimated total of *c.* 250 coins and artefacts found in 1862 at Croydon (Whitehorse), Surrey, which was probably deposited in 872 and is accepted as being of Viking origin (Brooks and Graham-Campbell 1986; 2000). Some of the surviving artefacts exhibit test-marks (*ibid*., 92) and one of the Carolingian coins bears two parallel scratches which appear to be a deliberate test-mark, but none of the English coins of the Lunettes type bears any test-marks. The Islamic coins originally present are known only from drawings, but appear to have had the usual edge-cuts. None of the test-marks used is a classic peck. Other undoubted Viking hoards of the Lunettes period are the small groups of unmarked Lunettes coins found in a mass grave and another burial at Repton, Derbys, associated with the over-wintering of the Viking army there in 873–4 (Pagan 1986a; Biddle and Kjølbye-Biddle 1986). The evidence is thus strong that pecking was not in use by the Vikings in the Lunettes period, which lasted until *c.* 875, and so was clearly not introduced in response to the declining silver content of the English coinage.

Site-finds of the Lunettes period are also unpecked. *BMC* 250 from an unknown find-spot has been pierced with a triangular knife-blade, but this is more in the nature of a sign of demonetization as applied in the later medieval period to false coins or those from an issue no longer officially current.

It may be asked under what terms the Vikings accepted the base Lunettes coins. Several of the weights with coins set into or pinned onto their tops are of this type (Archibald 1998; Williams 1999, 29–31, nos 19–21), and other pierced examples may also have been used as weights (Williams 2008b) so perhaps, in order to calculate the cash element of a payment, the Vikings weighed the Lunettes and valued them at a suitably low tariff favourable to themselves. Theoretically, they could also have analysed a random sample of Lunettes by fire-assay (see above, p. 54) and assessed the amount due in pennies for any future payment in terms of the result. Bullion in the form of ingots of better-quality silver, such as that included in the Croydon hoard discussed above, clearly had an important, perhaps dominant, role in tribute payments at this time, and it was the finer-silver artefacts and coin which were test-marked, although not yet by pecking. Perhaps also, even at as early a stage as the 870s, this is evidence of the beginnings of a dual economy, with some Vikings seeking to acquire not only bullion but also the base money needed to conduct a settled day-to-day life in England, to which some of them had already begun to aspire. Be the true explanation what it may, the Vikings did not peck Lunettes coins.

Alfred, in association with Ceolwulf II of Mercia, demonetised the Lunettes issue and substituted a fine-silver coinage *c.* 875, but the hoard evidence in both Anglo-Saxon England and the Scandinavian-controlled areas practically dries up. For hoards in which the final type represented is the next substantive issue, the Cross-and-Lozenge type, there is only the small find from the heart of Wessex at Washington, Sussex, predictably without test-marks (Blunt and Dolley 1959, 234; Dolley 1963). The three hoards of the following London Monogram type, all from within Alfred's kingdom, although close to its borders and at risk from Viking raids, are of little use for the present purpose: two are shadowy nineteenth-century finds, from Bucklersbury, London, and Erith, Kent, and are – as far as survivors allow us to say – predictably again not test-marked (Blunt and Dolley 1959, 234–5; Dolley 1960b, 7; Pagan 1983). The third, the St Albans (Abbey Orchard), Herts, hoard of 1968, consisted of a parcel of forty-five Lunettes pennies (flat and unpecked) to which had been added later a single unpecked round halfpenny of the London Monogram type, struck *c.* 880 (Archibald, forthcoming). Found near the Anglo-Saxon abbey, the contents are likely to have been Anglo-Saxon in origin. We lack any relevant hoards closing in the early types of the revived fine-silver coinage from the Viking-held parts of the country.

It is not until the later part of Alfred's reign and the early years of Edward the Elder, from *c.* 890 to *c.* 910, that hoards useful for the present exercise become available again in the Danelaw – and the contents of all of them already display extensive pecking. The three earliest hoards are all from Viking-controlled areas: Stamford, Lincs (1902), Ashdon, Essex (1984), and Leigh-on-Sea, Essex (1892/3). The earliest of the three is Stamford, deposited *c.* 890. Much of the hoard was not declared to the authorities so it cannot provide figures on the extent of pecking to compare with the Cuerdale results. It comprised at least twenty-three halfpennies and probably considerably in excess of the fifteen or sixteen pennies recorded (Blunt and Dolley 1959, 239–40). The identifiable coins are in Alfred's name, but the majority are Viking issues; almost all are bent and most are pecked. The Ashdon hoard comprised mainly recent Viking copies of Alfred's post-880 type produced in the Midlands, a few coins of Guthrum of East Anglia dated *c.* 880–90, some of the following St Edmund type down to its middle period and a few Carolingian coins. All of these groups included both pecked and unpecked coins (Blackburn 1989). It closes with a coin from a Midland mint of King Guthred, identified as the Viking leader who became king in York in 895, and the hoard has been dated *c.* 895. It is again not possible to do the statistical exercise on the extent of pecking here as for Cuerdale because a high proportion of the coins are represented by fragments.

The coins from the Leigh-on-Sea hoard were found in a Viking context below the head of the occupant of a grave, which has been dated to *c.* 895. It contained at least twenty-three coins, none of which was a Viking issue, other than one Midland imitation of Alfred; the rest were Canterbury coins of Alfred, together with four coins of two types of Plegmund who

became Archbishop of Canterbury in 890 (Blunt and Dolley 1959, 235–8). Although closely similar in date to the other Essex hoard, from Ashdon, it was of quite different composition and only one of the surviving coins (an Alfred Two-Line type by the moneyer Æthelulf) is bent and pecked. It contained 'a typical cross section of the coinage of south-east England in the last decade of the tenth century' (*ibid*., 237). It appears to have belonged originally to an Anglo-Saxon, but had then passed into Viking hands and been given a notional, possibly ritualistic, check before burial.

The Stamford hoard, deposited *c.* 890, is thus the earliest known hoard anywhere to include coins with classic pecks, and it has been accepted by British and other European students in recent years that the practice of pecking began in Viking England in the later ninth century (Graham-Campbell 2002a, 53–8; Kilger 2006; Screen 2007, 161). The question that remained unanswered was, as Pagan put it, 'whether pecking of the coinage by Vikings commenced with Alfred's reform of the coinage or whether it did not start until a decade or so later' (Pagan in Graham-Campbell 2002a, 58, n. 40), and all students have noted that there are no known hoards deposited between 875 and 890 which would provide the answer.

In fact, the answer was already available in the Cuerdale hoard, which was deposited at least a decade later than the earliest known hoard to contain pecked coins. As shown above, coins in Cuerdale were first pecked as they reached Viking hands during the issue of the Cross-and-Lozenge type, the first substantive type to follow Alfred's reform in *c.* 875. As the hoards from Viking contexts of the base-silver Lunettes coins, current up to that date, show no evidence of pecking, it is clear that the introduction of this Viking testing method followed swiftly on from, and was a consequence of, the reinstatement of a fine-silver coinage by Alfred and Ceolwulf II in *c.* 875. It was the fact that the Anglo-Saxon coins had now become part of the fine-silver bullion stock – and so required testing – that prompted the invention of pecking. As will be recalled, it was the fine-silver coin and artefacts that had been tested in the Croydon hoard, while its base-metal Lunettes coins had not. It would, of course, have been possible for the new fine-silver coins to be tested in the rather haphazard, but presumably effective-enough, fashion employed on the previous bullion items; however, a novel and distinctive technique, pecking, was quickly introduced. This suggests that it was the invention of a particular individual, probably working for some influential Viking leader. The initial pecking on the earliest coins in Cuerdale need not have been carried out in the north-west where they were finally deposited, so there is at present no evidence to establish in which part of Viking England pecking began, or the sequence of its diffusion. Progress on this question would seem to depend on the discovery of hoards deposited in the different areas under Viking control in the early years following the reform. Pecking was clearly found to be a superior technique for assessing the quality of silver, as it spread rapidly throughout the Viking world and was its preferred testing method thereafter.

Dating
Gareth Williams

The composition of the Cuerdale hoard leaves no doubt that it was deposited in the very early tenth century and, although opinions have varied as to the precise date of deposition, they have generally done so within fairly narrow margins. With the hoard made up of so many different components, it might be expected that the dating of the hoard would also prove complex, but in fact the different elements agree very closely, especially combined with the evidence of testing described above. Hawkins (1843, 43–5) argued that the hoard was deposited *c.* 910, although he did not suggest a specific historical context. This view was questioned in the 1950s, and an earlier date of *c.* 903 was proposed (Blunt and Dolley 1959, 240–6). The former interpretation permits an association with the period of Viking activity in the north-west which culminated in 910 with the Viking defeat at Tettenhall, Staffs, whereas the latter interpretation is consistent with the expulsion of the Vikings from Dublin in 902 – and the Viking settlement in the Wirral under Ingimund. Recent academic thinking has been more cautious about associating hoards with known historical events, unless the evidence for doing so is very compelling, and a deposition date of 903 seems early for some of the parcels within the hoard; indeed, since the 1980s, a slightly later date of *c.* 905 has generally been preferred, with the most detailed discussion from this position being by Archibald (1992). However, even allowing for the use of *circa,* a single date suggests that fairly precise dating is possible, and it is perhaps more realistic to consider a date-range, based on a combination of the different elements within the hoard which will now be considered in turn.

The Anglo-Saxon element in the hoard ends relatively weakly with just over fifty coins of Edward the Elder, but this provides it with an absolute *tpq* of 899. This element does not include any of the pictorial types from western Mercia that are associated by numismatists with the activities of Edward's sister Æthelflæd, Lady of the Mercians, between *c.* 910 and her death in 917. Since these north-western issues were produced on the borders between Anglo-Saxon and Viking England, their absence from such a large assemblage of coins is likely to be significant. The Edward coins within the hoard are mostly of the earliest period of his coinage, following Lyon's classification (Blunt *et al*. 1989, 20–96), together with a few examples from the beginning of his second period. The difficulty is to establish a firm date for the beginning of this second period, while avoiding circular arguments about the dating of Cuerdale itself, because the hoard is a major factor in considering the date of this transition. As discussed above, the earlier coins of Edward show a higher degree of pecking than the latest issues, which appear to have been relatively freshly minted. This means that they could not have circulated for long, either in Anglo-Saxon or Viking hands, before they were removed from circulation. While there may have been some sort of gap between the addition of these later coins to the hoard and its actual deposition, the fact that these must be among the latest coins in the hoard means that there is no reason to suppose that this gap was a particularly long one. The much larger Alfredian component within the hoard was clearly accumulated over a long period, and the same was apparently the case on a smaller scale for Edward's coins. Nevertheless, the relatively small number of the latter suggests that they ceased to be accumulated by the hoarder relatively early in Edward's reign. In comparison to the coins of Alfred and Plegmund, a total of about fifty coins of Edward seems very few

to fill the gap between 899 and 910, and it is therefore likely that the Anglo-Saxon element in the hoard ends somewhat earlier than this, probably around the middle of this date-bracket. However, as Archibald has noted, in the absence of independent fixed points, there is no way of putting a precise date on the latest West Saxon coins in the hoard (Archibald 1992, 16).

Turning to the Anglo-Viking issues, the East Anglian coins contribute little to the dating of the hoard, those of Æthelstan/Guthrum, like the earlier Anglo-Saxon issues in the hoard, being already old by the time that it was deposited. The much larger group of St Edmund coins has no fixed dates attached to it, but the presence of St Edmund coins in other hoards shows that the earliest issues in the series certainly date from the reign of Alfred, while some of the later issues within the series continued to be issued for some years after the hoard was deposited – and St Edmund coins circulated in small numbers in the Danelaw into the 920s (Blunt 1969; Blunt and Stewart 1983; Blunt 1994; Blackburn 1996a; 2001a, 132–4; 2006, 206–8; Ager and Williams 2008). There is a clear distinction within the type between the early issues represented in Cuerdale and the later smaller issues, and there seems to have been little overlap in circulation between the two phases. This break seems to have occurred shortly after the deposition of Cuerdale, but as with the changes in Edward's coinage, it is easier to use Cuerdale to date the change than to use the change to date Cuerdale. Thus, while the dating of the series reinforces the dates provided by the Anglo-Saxon coins, the margins are actually wider at either end. The imitative issues are similarly unhelpful.

The issues of the Northumbrian group are more helpful, although still not definitive. As discussed above, the coins within this group are closely die-linked, despite the variety of design, and it is unlikely that the series was issued over an extended period. Again, there are no hard dates for either the beginning or the end of the series. The Cnut coins have been identified with a ruler of that name who was raiding in Northumbria *c.* 900, although if he was issuing coins at York, his raiding probably did not coincide with his issuing coins in the same area, and the coins are probably a little later, after he had become established. As discussed above, most previous discussion of this coinage has presupposed an Anglo-Saxon model of successive kings, rather than the Viking model of multiple contemporary kings, observable in the *Anglo-Saxon Chronicle* and elsewhere. It is therefore unsafe to assume that the earliest coins of Siefred, at the head of the series, necessarily postdate the death of Guthfrith in 895 (Lyon and Stewart 1961, 116; Archibald 1992, 16), although that is certainly possible, and even likely. More telling, perhaps, is the absence of any coins in the name of Guthfrith himself from the hoard, although we know from the Ashdon hoard that an issue in the name of Guthfrith existed, albeit apparently on a much smaller scale (see above, p. 48). This does not link into the Northumbrian series of Siefred and Cnut, whereas if Guthfrith and Siefred had enjoyed a collaborative kingship, as Siefred and Cnut apparently did later, one might have expected more links between their coinage, although it is also possible that the two were minting in different areas.

If the coins in the name of 'Alwaldu[s]' are accepted as issues of Æthelwold, son of Æthelred I of Wessex, these would presumably date between his arrival in Northumbria, in 900, and his arrival in Essex in 903–4 (*ASC* (D), *sub* 901 [899]; 904). The coins are heavily pecked, but Marion Archibald has pointed out that this may reflect concerns over the quality of the coins, which are of poor style, rather than necessarily an extended period of circulation. The style of these two pieces places them comparatively late in the series, so it seems likely that the earliest Siefred issues date from the late 890s, with the Alwaldus and Cnut issues dating from the first years of the tenth century (Lyon and Stewart 1961, 116–17; Archibald 1992, 16–17). The Cnut/Cunnetti issues appear to come at the very end of the series and to have been freshly struck at the time when the hoard was gathered together, although as mentioned above, there may have been a short gap between the compilation of the hoard and its deposition.

The hoard did not contain coins of the Swordless St Peter type, which followed the Siefred/Cnut series, and this absence is significant because the St Peter coinage was also minted at York, apparently on a large scale, and so it might reasonably have been expected to be included in the hoard if the issue had, in fact, been introduced by the time that the hoard was deposited. However, the Swordless St Peter type also has no hard dates, and there is again a danger of circular argument given that the provisional dating for this type, and the hoards in which it appears, derives in part from its absence from Cuerdale (Blunt *et al.* 1989, 103–4; Blackburn 2006, 205). No detailed analysis of the Swordless St Peter type has yet been published; however, this type is currently being studied for a PhD by Megan Gooch (to whom I am indebted for sharing her preliminary thoughts on the scale of this coinage).

If the coins in the name of ALFDENE are correctly attributed to the *Healfden*, or Halfdan, who died in 910, this would provide a *taq* for deposition, but no *tpq,* given that *Healfden* is otherwise unrecorded. Furthermore, that attribution cannot be regarded as certain. There is thus no firm *taq* to be derived from the Viking coinage in the hoard. However, it does not seem likely, on the basis of the die-links, that the Siefred/Cnut series can have lasted much more than a decade (if that) and, if the series began in the late 890s, that suggests that it finished between 905 and 910, and perhaps – more probably – at the earlier end of that range, with maybe the ALFDENE coins being a little later.

The Frankish coins also reinforce the date-range proposed on the basis of the Anglo-Saxon coins, although once again they offer a range rather than a clear date. Within the northern group, a *tpq* is provided by the later Italian issues, which can be more-or-less precisely dated. Imperial issues of Louis the Blind, from Milan and Pavia, must date from 901–2, as this was the only period during which he controlled that area. This date is reinforced by a single fragment of a joint issue attributed to Louis the Blind, as Emperor, and Pope Benedict IV; their two reigns only overlapped in the period 901–3. Finally, the hoard contains a number of coins attributed to Berengar's second period of rule as king of Italy, from 898–900, but none from his third period of rule in 902–15, although this latter group is comparatively common elsewhere. The Italian coins are thus consistent in suggesting that they left Italy *c.* 901–2, or just possibly as late as 903. The Lotharingian issues of Louis the Child (889/90–911) provide a slightly wider date-range. Louis only controlled Lotharingia from 901 until his death in 911, and

his Strasbourg coins must date from within that period. The absence of any Lotharingian issues of his successor Charles the Simple provides a firm *taq,* but there is currently no good basis for assigning the coins of Louis to any particular date within the ten-year period, although a detailed study of the type, including die-comparisons of the Cuerdale coins with examples from Continental hoards, might yet reveal more information. Allowing time for the Italian issues to make their way up to the North Sea, and for the whole group to make its way to Cuerdale, a *tpq* of 903 appears a little ambitious, so the proposed deposition date of *c.* 905 seems more secure – with a *taq* of 911 provided by the Lotharingian issues (Archibald 1992, 17–18).

The western group of Frankish material is harder to date precisely, because of the difficulties of attribution discussed above, although comparative studies of the 'Charles' coins and similar material in continental hoards may yet permit more precise dating. As with the Anglo-Saxon issues, the western Frankish issues cover a lengthy period, with the earliest 'Charles' issues being attributed to Charles the Bald (840–77). The coins of Odo (888–97) push the date closer to that suggested by other elements in the hoard, with the latest coins in this group being those attributed to Charles the Simple (897–922). Although this presents a wide potential date-range for the end of the western group, these coins are close in both style and physical condition to those of Odo, and it is likely that they were issued within a few years of Odo's death. Comparative pecking is perhaps less helpful here than in other areas. As Marion Archibald (1992, 18, and above, p. 60) has pointed out, the Odo coins are generally more heavily pecked than most of the 'Charles' issues, and while this could indicate that some of the 'Charles' coins came into Viking hands later, it could also reflect a greater familiarity with the 'Charles' coins.

The dating of the western group is thus consistent with some, or all, of this large group having been acquired at the time of a documented raid on Aquitaine in 898. Many of the coins are likely to have been acquired somewhat earlier, and it is possible that some of the Charles the Simple issues may just extend into the tenth century. While theoretically these issues could push the date of the hoard into the second decade of the century, this seems unlikely, and it is more probable that this element of the hoard terminates slightly earlier than most others.

The earliest Scandinavian coins from the hoard were already old when deposited – and their fragmentary state may well indicate that they had effectively become bullion some time earlier. The final coin is more problematic because its type does not have firm dates attached, although a date of *c.* 900 has been proposed for its beginning. Most of the dateable deposits are considerably later, and the type clearly continued to circulate in Denmark long after the Cuerdale hoard was deposited, so that no useful *taq* is provided by the Scandinavian material (Archibald 1985). The Cuerdale example does show comparatively heavy pecking, but it is unclear where and when this pecking took place. Some of the pecking might conceivably have been carried out in Scandinavia, but as the sole surviving coin of this type from England, it is likely that this type was always extremely rare in Britain and Ireland – and it was therefore probably tested more heavily because of its unfamiliarity (see also Archibald above, p. 61, where she notes the absence of evidence for pecking within Scandinavia at this time). Nevertheless, it is clear that the coin had circulated for a while before deposition. Allowing time for circulation, and travel across the North Sea, its deposition in the first decade of the tenth century is certainly perfectly plausible, but it is hard to imagine that this could have been much before 905 – and it could easily have been a little later.

The Islamic coins in the hoard have the advantage for dating that, unlike European coins, they actually carry their date of issue. However, not all of this group can be traced, and many of those that can be traced are either too fragmentary or too worn to provide a clear date. Where dates are visible, these range between the late eighth and the late ninth centuries, with the latest dateable coin being a dirham of the Abbasid Caliph al-Mutadid, struck at the mint of Baghdad in the year AH 282 (AD 895/6). The latest dated dirhams in the hoard before this one were issued in 890/1, so that the coin of 895/6 appears somewhat isolated (Lowick 1976; Archibald 1992, 18). However, coins of different dates circulated alongside each other in the Islamic world. As Marion Archibald has noted, this means that the latest coin in the group does not necessarily indicate the date at which the group was removed from currency, given that a coin of a year or two later may fortuitously be absent. Furthermore, it is possible that later coins could have become separated during the movement of the coins through Russia and Scandinavia to the West; in addition, the fact that not all of the Islamic coins from the hoard can now be accounted for means that a slightly later end-date for this group is not impossible. AD 895/6 thus represents the earliest possible *tpq* for the removal of this element of the hoard from the Middle East, but it is not a very firm date.

This group contains a number of imitative issues, as well as the official coins discussed above. The precise origins of these imitations are unknown, but imitation dirhams have been attributed to the Volga Bulghars, the Slavs and to Scandinavians. The latest of these imitations copied a coin of the Caliph al-Mutadid (892–902), although it is unclear what the date was on the original coin. Clearly the imitation cannot be earlier than its prototype, but it may be contemporary – or it could date from anything up to several years later. The *tpq* of the imitative group is thus even less secure than that of the official issues, but broadly supports them, although the latest of the imitations could be some years later than the date of 895/6 provided by the latest official issue.

The difficulty with these coins, both official issues and imitations, is in ascertaining just how long it took for them to make their way from the Middle East to Lancs. Comparisons with other hoards from northern Europe in the late ninth century suggests that it could take under ten years from the date of issue of the latest Islamic coin to its date of deposition. However, comparable hoards from the Danelaw and the Irish Sea area in the early tenth century suggest that a period of ten to fifteen years was more typical for this period (Naismith 2005; Williams 2008c, 230). This again suggests a comparable date-range to the other elements of the hoard, although a deposition date as early as 905 would be harder to justify for the Islamic coins than for some other series.

The sole Byzantine coin in the hoard is so much older than the bulk of the material that it adds nothing to the discussion of the dating.

Bringing the different groups of coins together, the dating evidence is fairly consistent. A deposition date before 905 seems unlikely, especially when considering the time required for the Italian and Islamic issues to reach Northumbria. Assuming that there was no significant chronological gap between the owner of the hoard ceasing to acquire coins and his burial of it, the latest plausible date remains 910. Even that date is difficult to reconcile with the weak ending of the Anglo-Saxon component. It therefore seems safest to place the deposition of the Cuerdale hoard within a date-range of *c.* 905–10, rather than trying to link the event too firmly with a single year.

The coins in context

The Cuerdale hoard represents by far the largest Viking hoard from either Britain or Ireland (cf. pp. 5–7, above), and the difference of scale is particularly true of the coins. As a result, it is often easier to interpret material from other finds in the light of Cuerdale, rather than the other way round. However, whereas the scale of the coinage element is unique, the mixture of coins (and other items) within the hoard fits into a larger pattern. A number of important Viking hoards have been uncovered in the Danelaw in recent years, and detailed studies have been undertaken on several of the Anglo-Viking issues, as well as some important discussions of the nature of silver economies in the Viking Age. It is therefore possible to provide some context for the composition and deposition of the hoard.

(a) Monetary regions within the Danelaw

Following the conquests of the 860s and 870s, England was effectively divided into two main regions, one of which remained under Anglo-Saxon rule, while the other came under the control of a number of Viking rulers. Although this is often referred to generically as the Danelaw, it was never unified politically under a single Viking ruler. The lack of detailed documentary sources relating to the Danelaw in the late ninth and early tenth centuries means that it is difficult to identify clear political boundaries within the Danelaw, and even the boundary between Anglo-Saxon and Viking rule in the late ninth century remains the subject of active debate. However, there has been increasing recognition in recent years of regional distinctions within the Danelaw, based on the combination of different types of evidence, including place-names, material culture and numismatics, as well as history. The coins do not provide evidence for clear internal boundaries, but they do provide evidence for broad monetary regions, and these appear to have some correlation with distinct political entities, although not all of these can be clearly identified.

East Anglia appears to have been a self-standing kingdom, with a well-established coinage of its own by the time that the Cuerdale hoard was deposited. It is not clear where the western border of the kingdom lay, and it may well have extended beyond the traditional boundaries of the kingdom into Eastern Mercia. Although the treaty between Alfred and Guthrum says nothing about the West Midlands, or indeed the northern part of the East Midlands, it does seem to indicate that Guthrum had control of the area to the north of the Thames as far west as Northamptonshire, so that his kingdom probably included Northamptonshire, Bedfordshire, Hertfordshire, Huntingdonshire and parts of Buckinghamshire, in addition to the areas traditionally associated with the East Anglian and East Saxon kingdoms. Although Guthrum's own coinage was apparently not large, there is no particular reason to assume that this kingdom had fragmented by the time that the St Edmund Memorial coinage began *c.* 895. However, the *Anglo-Saxon Chronicle* account of Edward the Elder's conquest of this region suggests that political control of the area had certainly fragmented by the second decade of the tenth century – and that this fragmentation may already have begun by the time that the Cuerdale hoard was deposited. The evidence of coin finds suggests that, within this greater East Anglia, both East Anglian and West Saxon issues circulated in reasonable numbers, but that there were monetary contacts in both directions between East Anglia and Viking Northumbria, and also that there was no firm control of circulation within East Anglia or the southern Midlands until the latter part of Edward's reign.

The kingdom of Northumbria was likewise a self-standing kingdom, although its boundaries appear to have been fairly flexible. The centre of the Viking kingdom was in the old Northumbrian capital of York, but the north-east – around Bamburgh – appears to have remained under independent Anglo-Saxon control. A distinction is sometimes drawn between a supposed 'Kingdom of York' and a more loosely defined 'North-West', but this distinction is considerably more apparent in modern secondary literature than it is in contemporary documents or in the archaeological record. Certainly the hoards and other numismatic evidence do not support such a distinction, a point that will be discussed further below. It is also unclear whether the southern boundary of Viking Northumbria consistently followed that of the Anglo-Saxon kingdom. Blackburn has argued on stylistic grounds that the coinage of Guthfrith may have been issued south of the Humber, and there is no doubt that Viking rulers based in York exercised some degree of political and monetary authority in parts of the north Midlands in the 920s and at the end of the 930s (Blunt *et al.* 1989, 106–7, 211–34; Blackburn 1989, 18–20; 2004, 327; 2006, 209–20; Williams 2008a; 2008c). In the absence of clear documentary evidence, there is no way to establish whether this was also the case in the first decade of the tenth century when the hoard was deposited.

The Cuerdale hoard demonstrates beyond any doubt that minting was already taking place in York by this time and, just possibly, at a second mint of 'Cunnetti', and Viking minting at York continued until Æthelstan's conquest of Northumbria in 927. However, although hoards of the early tenth century show that Northumbrian coins were in general circulation across the kingdom, they also show that there was little or no control over what other coins were in circulation, even in the environs of York; especially during the Cuerdale phase, both official Anglo-Saxon issues and East Anglian types are well represented. Equally, coins of Viking Northumbria are known from further south, indicating that monetary links went in both directions.

The Midlands remains the most difficult region to interpret. There is no documentary evidence to suggest a single Viking kingdom of Mercia beyond the original division in the 870s, and few coins carry clear Midlands mint-signatures throughout this period, although Lincoln coins are recorded both among the Alfred imitations in the hoard and in the

Sword series of the 920s. Although the 'The Five Boroughs' are generally discussed as a group, and even (if implicitly) as a political/economic entity, there is little documentary evidence to support this (Williams forthcoming b), whereas the fact that Lincoln alone appears to have issued mint-signed coins tends to argue against the possibility. As mentioned above, Lincoln may in any case have had particular ties with Northumbria, with Blackburn (2001b) having noted that the Thurcaston hoard suggests that, as late as *c.* 925, Leicestershire had some similarities with the pattern of monetary circulation north of the Humber.

It seems likely that some of the imitative types were issued in the Midlands, but if so their presence in Cuerdale also points to monetary contacts between the two regions, and again there is no evidence of firm monetary control within the region itself, although the limited finds evidence from this period makes any firm conclusion difficult. However, as the body of evidence grows, there is a possibility that future detailed analysis of the imitative types may clarify not only the monetary relationships between the Midlands and other areas, but also the internal territorial divisions within the region.

(b) Hoards of the northern Danelaw

Cuerdale is one of at least eighteen hoards to have been recorded from the northern Danelaw in the period between the conquest of the kingdom of Northumbria by the Vikings, in 869, and the integration of Northumbria into the expanding English kingdom of Æthelstan in the years immediately following 927 (**Fig. 9.2**). However, although Cuerdale sits in the middle of this chronological span, it is one of the earliest of the hoards. The only earlier hoard comes from the very beginning of this period, from a site known publicly only as 'North Yorkshire area', although its precise location has been recorded.

This North Yorks hoard stands apart from the other hoards, in that it represents a very different monetary situation from the hoards of the early tenth century. The hoard comes from a 'productive site', with indications of Anglo-Saxon settlement in the eighth and ninth centuries, overtaken by Viking activity in the 870s, apparently followed by continuing Viking occupation into the tenth century. A variety of material was recovered from the same find-spot as the hoard itself, including several iron items, as well as lead and copper-alloy weights, part of a balance, together with various other scraps of metalwork. Given that the site has been disturbed by farming, it is possible that some of these items represent individual site-finds, rather than having formed part of the hoard. The hoard itself consists of a mixture of silver bullion, including one ingot, four ingot droplets (only two of which contain more than 10% silver), six pieces of hack-silver, and ten coins. Of these, one is a fragment of an Islamic dirham, with the others being silver pennies of the 'Lunette' type of Alfred of Wessex and Burgred of Mercia (Ager and Williams 2007; Williams 2008b). At first glance, this combination of bullion and a mixture of Islamic and Anglo-Saxon coins seems reminiscent of Cuerdale and other later hoards, allowing for the difference in scale. However, the Lunettes coinage was made of much baser silver than Alfred's other types and seems to have been deliberately excluded from later Viking hoards, as well as from circulation in areas under Anglo-Saxon control. Furthermore, the withdrawal of this type from currency took place *c.* 875, several years before the introduction of the first Anglo-Viking type in East Anglia, and probably with a longer gap before the introduction of the first Viking issues in Northumbria. The coins must thus be seen purely in the context of a bullion economy, without the ambiguity of Cuerdale and other tenth-century hoards which combine bullion elements with officially current issues from Northumbria and elsewhere, while the dating and historical circumstances link it more closely with the larger group of hoards from across England dating from the late 860s and early 870s discussed by Brooks and Graham-Campbell (1986; 2000).

Following this hoard, there is a gap of around thirty years before the beginning of a much more tightly grouped series of hoards, of which Cuerdale is the earliest. Within this series, the hoards fall into a number of different categories (although it should be noted that not all survive in their entirety). Four appear to have contained only coins and seven contained a mixture of coins with various types of silver bullion; there are two which consist only of intact ornaments, and one which contains complete ornaments (in the form of arm-rings) flattened in preparation for use as hack-silver, together with a single ingot. Of the four hoards that only contained coins, two (Dean and St John's, Chester) consisted of a mixture of coins of different origins, including imported coins as well as local issues from Viking Northumbria. The other two ('Lancashire' and Walmgate, York) apparently contained issues from York, as did five out of the seven mixed hoards, including Cuerdale. Cuerdale thus fits into the most common category of hoards, although none of the others contains as wide a range of coins as those represented in Cuerdale. This is probably no more than a reflection of the much greater size of Cuerdale, which contained considerably more coins than all of the other hoards put together. The absence of particular series of coins from the smaller hoards need be of no surprise, whereas three of the larger hoards – Bossall/Flaxton, 'Vale of York' and Flusco Pike (no. 2) – each contains all but one of the main groups (Anglo-Saxon; Danelaw; Scandinavian; Frankish; Islamic) found in Cuerdale, although across the period a number of different series of coin types from Viking Northumbria are reflected in the hoards.

Two features are particularly noticeable when considering the hoards as a group. The first is that there is no obvious chronological differentiation between the coin hoards and mixed hoards. Whereas Cuerdale comes at the beginning of the series and is followed by a number of hoards for which no non-numismatic items were recorded, there are several mixed hoards from the end of the series in the 920s. The hoards without coins cannot be precisely dated within this period.

Secondly, there appears to be no geographical significance to the components of the hoards. Cuerdale has often been discussed in the context of an 'Irish Sea zone' on the one hand, and York and its hinterland on the other, not least because the find-spot lies on a major communication route, along the Ribble, between Yorkshire and the Irish Sea (**Fig. 9.3**). The York mint-signature on the Siefred/Cnut group (and on subsequent Anglo-Viking issues) clearly suggests a focus on York, as the place at which the coins were issued; the excavations of Viking York have also concentrated attention on York itself; and the idea of the 'kingdom of York' is taken for granted by many modern scholars, despite the fact that

contemporary sources, where they exist, tend to continue to refer to the kingdom of the Northumbrians (Smyth 1975; 1979; Blackburn 2004; Rollason 2003). Seen together, the hoards certainly do not suggest a monetary distinction between east and west within Northumbria. Of the two hoards containing only coins from York, one comes from York itself, but the other is from Lancs. The other two that contain only coins are from Chester and Dean, both in the west. As discussed above, there is also a very strong York component in Cuerdale itself, and the influence of the York coinage is also discernable elsewhere around the Irish Sea, in mixed hoards including Bangor (Gwynedd) and Geashill in Ireland. York coins were also present in the hoards from Harkirke (Lancs) and Flusco Pike (no. 2) from Cumbria. Conversely, Bossall/Flaxton (**Fig. 1.7**) and the recent (2007) hoard from a location in the Vale of York (**Fig. 1.8**) are both mixed hoards with strong Irish Sea elements in addition to York coinage, as well as material imported from elsewhere. Goldsborough (3) apparently contained no York material, but had a strong Irish Sea element together with imported coins. All three are located within a few miles of York, within the area which one might expect to be dominated by York coinage, if anywhere was going to be. Furthermore, all three were deposited in the 920s, by which time the York coinage was far more established than when Cuerdale was deposited, yet proportionally none of them had such a strong York element as Cuerdale.[12] A final point is that the boundaries between the northern Danelaw and the Midlands have perhaps been too firmly drawn. Cuerdale has a component from the Viking-controlled Midlands, and the same is true of both Flusco Pike (no. 2) and the Vale of York. At the same time, a hoard from Thurcaston, in Leics, is comparable to the northern hoards – and the Sword types of the 920s certainly seem to suggest a relationship between coinages to both the north and south of the Humber (see above, pp. 67–8).

These comparisons raise two questions about the hoards of this period from the northern Danelaw, perhaps including the north Midlands. What sort of economy did the hoards fit into, and what was the scope and function of the York coinage?

(c) The development of silver-based economies within the Danelaw

It seems clear that there were (at least) two quite distinct types of silver-based economy within northern Europe at this time. One was a controlled monetary economy based on officially issued coins and regulated circulation of currency. The second was also a monetary economy of sorts, but without the controls and regulation facilitated by the use of coinage. Rather, this was an economy based on silver (and to a lesser extent gold) bullion, measured by weight for quantity and tested for quality by the various testing techniques discussed above by Marion Archibald**.** Coins could also function within this type of economy, as conveniently small pieces of bullion. Within the Danelaw, these two types of silver economy could overlap, and it has become customary to refer to the 'dual economy' of the Danelaw in the early tenth century (Blackburn 2001a, 134–5; Graham-Campbell 2002a; Williams 2007, *passim*). Precious metal could also function on a third, non-monetary, level of economy. This was the status economy, in which precious metal ornaments were worn in an ostentatious display of wealth. Such items also served as a medium for social transactions, and they overlapped with the bullion economy in that such ornaments also had a bullion value and could easily be converted into smaller pieces of hack-silver, while hack-silver, ingots and coins could also provide the raw material for new ornaments. The overlap between the status and bullion economies is even more apparent in certain types of arm- and neck-rings which appear to have been weight-adjusted, so that the complete item had an immediately recognisable bullion value; for discussion of the use of silver in social exchange, see also: Samson 1991a; 1991b; Gaimster 1991; 2007; Kruse 2007; and Williams 2007, 178–85; for weight-adjusted jewellery, see also Hårdh 1996; 2007; and Williams 2007, 181–2). The complete ornaments in Cuerdale and other mixed hoards may combine status and bullion economies, whereas the intact ornaments that constitute the first hoard from Flusco Pike (2) and those from Orton Scar and Selby (**Figs 1.9** and **1.10**) may relate to the status economy without direct regard for bullion value.

The dual economy of the Danelaw reflects interaction between the controlled coin-based economy of the Anglo-Saxons (and Franks) and the bullion economy of the Vikings, with the status economy probably common to both, although the detail of the relationship between wealth, display and social relationships was probably not identical in the two societies. As mentioned above, coins could function perfectly well as bullion. It seems reasonable to assume that Islamic coins from the Danelaw were seen purely as bullion, especially as many of them are found only as fragments, very possibly having been fragmented well before they got to England. The same is true to some extent of all imported coins, which would include any Anglo-Saxon or Anglo-Viking issues which were not the official and current issues of the dominant political authority in any given part of the Danelaw.

In particular, the test-marks on coins discussed by Marion Archibald (above) show that these coins were not trusted as being more reliable than any other form of silver because of their appearance, although it does seem that the more common types may have been tested less heavily than other rare and therefore unfamiliar issues. What is particularly striking, however, is that such test-marks are found on locally produced issues as well as those from further afield.

Pecking on coins continued well beyond the date of Cuerdale, with a single pecked Sword St Peter penny of the 920s found near Louth, in Lincs, until recently forming the latest recorded example (Blackburn and Bonser 1985, no. 113; Blackburn 2001a, 135; Graham-Campbell 2002a, 58; Williams 2007, 197). Over the period in between, pecking seems to have become gradually less common, with a growing proportion of unpecked coins in hoards. Pecking is also apparent on coins from the Vale of York hoard, deposited *c.* 927–8, but at the time of writing (2009) the hoard had not been fully cleaned, and so no detailed study has yet been made of the pecking within the hoard; however, the hoard has an extended age-structure, across nearly fifty years (Williams 2008c; Ager and Williams 2011), and it will be significant for our understanding of changes in pecking whether peck-marks continue until its latest coins. Furthermore, although pecking is generally rare in the hoards of the 920s, the fact that so many of these later hoards are mixed means that the reduction in pecking on coins does not denote the end of the bullion economy, but rather it

suggests that growing familiarity with coins led to an increased trust in the silver content of the coins which made such testing unnecessary. As discussed by Marion Archibald (above, pp. 54–64), testing by bending and edge-nicking is observable from the early 870s, while the earliest clear evidence for pecking comes in the Stamford hoard of *c.* 890, followed by the Ashdon hoard of *c.* 895. Pecking is still increasingly visible in the Cuerdale hoard, but rarer thereafter. This coincides to some extent with a group of Viking lead weights with coin insets, which may have been used to weigh payments in coin; these were common in the mid- to late ninth century, but seem to have tailed off quickly in the early tenth century (Archibald 1998; Williams 1999; some further examples of such weights have since been recorded, but not yet published, all of the late ninth century).

Test-marks, mixed hoards and coin weights all thus point to the use of coin within a bullion economy in the Danelaw throughout the reigns of Alfred and Edward the Elder, and just into the reign of Æthelstan, although Anglo-Viking coinage was being issued in East Anglia as early as *c.* 880 and in Northumbria from the mid-890s at the latest. Within the northern Danelaw, the earliest issues were probably anonymous imitations, followed by a small-scale coinage in the name of Guthfrith. This was followed by the much more extensive coinage of the Siefred/Cnut group which was so heavily represented in Cuerdale. The Alfdene coins are probably either contemporary with, or slightly later than, the Siefred/Cnut group, but issued south of the Humber. The Siefred/Cnut coins were followed by the anonymous Swordless St Peter type, which was probably first issued shortly after Cuerdale was deposited. This was followed in turn by the regal coinage of Ragnald, *c.* 917, and in the 920s by the various Sword types in the names of Sihtric Rex, St Peter and St Martin (Blackburn 2006; for a new (but related) Sword type, currently represented only in the Vale of York hoard, see Williams 2008a; 2008c; 2011). Although the relative chronology of the different reverse types within the Sword group has not yet been satisfactorily resolved, it does seem that the coinage continued until Æthelstan's conquest, with an independent coinage re-emerging intermittently from the late 930s until 954. Although the scale of testing apparently diminished in the course of the first quarter of the tenth century, the end of the bullion economy coincided not with any development within the Anglo-Viking coinage, but rather with the suspension of the Anglo-Viking coinage following Æthelstan's conquest of 927. The Vale of York hoard shows that this shift did not take place immediately after the conquest, but the bulk of the available wealth may well have been in Anglo-Saxon hands after this date, with the decisive shift away from a bullion economy occurring under Anglo-Saxon rule.

All of this suggests that, despite the considerable scale of the locally produced Anglo-Viking coinage from the Cuerdale phase onwards, it had comparatively little effect on the nature of silver economy in the northern Danelaw. As the most readily available coinage in the area, it is well represented in finds of the period, while the familiarity of the coinage meant that it was less extensively tested than less familiar imported coinage. At the same time, however, the issuing authorities failed to exclude the circulation of coins from elsewhere – and also failed to enforce the use of a coin-based silver economy in the place of the established bullion economy. Indeed, there is no evidence that they even attempted to do so.

As mentioned above, there appears to be a link between the introduction of the Danelaw coinage and the adoption of aspects of Anglo-Saxon Christian kingship. This reflects a broader association between issuing coins and a concept of Romanised Christian kingship which seems to have been widespread within early medieval Europe. A comparable period of transition is apparent in early Anglo-Saxon England, with the early Anglo-Saxons first using imported coins within an economy which was not completely coin-based, and then adopting coinage of their own following the conversions of the Augustinian mission. Early hoards such as Sutton Hoo and Crondall show a period of assimilation, in which imported coins and even bullion continued to circulate after the introduction of locally issued coinage. Similar patterns can also be observed in Viking Scandinavia and elsewhere on the European periphery (Grierson and Blackburn 1986, *passim*; Grierson 1991, *passim*; Williams 2006; 2007).

The key point here is that the transformation from a bullion-based economy to a controlled coin-using economy did not necessarily take place quickly. Issuing coins with controlled designs, precious metal content and weight standards was an important step. In itself, it was a statement of identity, and also an assertion of a degree of authority. However, a further level of authority was required to enforce general acceptance of those coins as anything more than bullion – and a further level again to enforce the exclusion of other forms of currency. Issuing coins required that rulers and their officials changed their perception of the role of the king in relation to the economy. For a controlled economy to develop, the perception of the coin-using population had to change as well.

The coinage in Cuerdale has been seen in the context of the Anglo-Saxon and Frankish coinage of the time. Both the Anglo-Saxons and the Franks had well-developed coinage and a high degree of monetary control. By contrast, the coinage of Viking Northumbria had only recently been introduced by the time that the Cuerdale hoard was deposited. The later mixed hoards from Goldsborough (**3**), Bossall/Flaxton and the Vale of York show that there was still no effective control of monetary circulation even in the hinterland of York as much as fifteen to twenty years after Cuerdale. It therefore seems rash to attempt to draw a distinction between a coin-based economy in the York area and a bullion-based economy in the north-west in the first decade of the tenth century. York was perhaps the sole mint, and certainly the focus of royal and ecclesiastical administration, as well as by far the largest urban centre in Viking Northumbria, but all of this had also been the case before the Viking invasion – and was to remain the case until well after the Norman Conquest.

This has a wider significance for the interpretation of the contents of the hoard as a whole, and of how it came to be deposited at Cuerdale. It is clear that the hoard represents material accumulated from a variety of sources, with parcels that had been removed from those sources at very different times. The close correspondence in date between the latest issues in each of the different numismatic elements in the hoard suggests that the hoard as a whole was only brought together a relatively short time before it was deposited. The fact that freshly-struck coins minted in York form the most

recent addition to the hoard suggests that that element of the hoard at least was on its way from York at the time that the hoard was deposited. If one accepts that minting at York does not mean that there was any control of monetary circulation, there is no reason to suppose that any of the other numismatic material did not also come to Cuerdale via York. None of the coins was produced in the Irish Sea area, and the imported coins could just as easily have reached Cuerdale from York as from Ireland. In the case of the East Anglian and Midlands issues, this seems considerably more likely than not. Although the non-numismatic component of the hoard does contain much Irish material, accepting that a mixed economy continued to exist in the York area at this time means that there is no reason why that material could not also have accumulated in York.

Conclusion

The combination of the range and the size of the numismatic component of the Cuerdale hoard set it apart from any other western European hoard of the period. Although the numismatic contents of the hoard can no longer be fully constructed, it seems likely that the surviving record is broadly representative of the contents as a whole, although this cannot be completely certain. Cuerdale completely dominates our knowledge of the early Danelaw coinages, especially the Siefred/Cnut group, providing indisputable evidence of a substantial and well-struck coinage. At the same time, the presence of these coins in a mixed hoard together with imported coins and non-numismatic material raises important questions about the relationship between the issuing of coins and the way they actually functioned in circulation. The greatest problem for the study of the hoard is the extent to which it dominates our understanding. A growing body of hoard evidence from the second and third decades of the tenth century provides some basis for comparison when considering the mixed nature of the silver economy in the northern Danelaw, but these hoards represent a slightly later phase of the coinage itself. The paucity of other English hoards of the last decade of the ninth century and the first decade of the tenth, together with the fact that single-finds are also comparatively rare, means that Cuerdale largely informs our interpretation of the coin types represented (whether Anglo-Viking, Anglo-Saxon or Continental) rather than the other way round. The early imitative types from the Danelaw are particularly poorly understood – and will probably remain so until more hoards from the end of the ninth century are discovered. Future finds from the period may yet permit significant changes to our interpretation of the Cuerdale hoard.

Notes

1 A photocopy of Hardy's initial listing is available for consultation in the Department of Coins and Medals at the British Museum, while the original manuscript remains in the Duchy of Lancaster archive.

2 For further information concerning the nature and contents of the 'Duchy bundles', see Chapter 2.

3 This uncertainty derives from the fact that, whereas the five workmen involved in the discovery are known to have been permitted to retain a coin each, there were another five or nine workmen on site who may or may not have been given a coin each; in addition, Hugo (1853, 333) mentions that one of them carried off 'not less than six-and-twenty' in his boots (see above, Chapter 2 and note 8).

4 There is certainly an element of double-counting here, given that some (but not necessarily all) of the coins in the collections of Gilbertson and Hugo came from the workmen, up to a possible total of forty (see note 3), compared with the combined recorded total of forty-six for Gilbertson and Hugo. There may also be an element of double-counting between the collections of Kenyon and Moore, whereas either or both of the two unknown individuals cited by Hopkins may possibly represent collections already named on the list. These would have to be additional to the lists compiled by Hawkins after the inquest, but may coincide with some of the named individuals, or the Stonyhurst collection. Even so, it seems unlikely that the true total here could be much below 7,200, and it could easily be as high as 7,350.

5 On the occurrence of the name *Hundr* in Old Norse, see Fellows-Jensen 1968, 144; and Haraldsson 1977, 11.

6 A third example may also derive from the hoard; this coin, formerly in the collection of Christopher Blunt, lacks a firm Cuerdale provenance, but was identified by him as likely to be of Cuerdale origin on the basis of its patina. The surviving examples, and the type, are discussed by Blunt (1985).

7 Danelaw imitations of Edward's coinage can be identified (Blunt *et al*. 1989, 52–3), but none is recorded in Cuerdale, and all of the recorded examples appear to derive from post-Cuerdale phases of Edward's coinage.

8 A page of un-numbered 'Uncertain' coins is bound between nos 635 and 636 of the Alfred pennies in the British Museum copy of Hardy's list. The tentative identification of the design as a 'Shirt of mail' is consistent with the hatching of the beast on the reverse of the KG 5 coins, which are too fragmentary for the nature of the full design to be apparent without reference to other complete examples. No other coin from the hoard remotely matches this description. Hardy lists half a coin of this type, plus two fragments of a similar coin.

9 Lowick was unaware of the small parcel of Cuerdale coins still in the Royal collection, at Windsor Castle (see p. 29), which includes five dirhams (listed in Philpott 1990, 80).

10 Although, at the time of writing (2009), no halfpenny of Alfred's first reformed issue (the Cross-and-Lozenge type) was on record, a Cross-and-Lozenge halfpenny in the name of Alfred's contemporary Ceolwulf II has been recorded. The role of halfpennies in this period will be discussed in more detail by Marion Archibald in her publication of Anglo-Saxon coin hoards, currently in preparation.

11 Marion Archibald would like to thank: Lord Clitheroe and the Hon. Ralph Assheton for making the Assheton cabinet of Cuerdale coins available for study in the British Museum; all the curators of coin cabinets mentioned above, especially Dr Michael Kenny and his colleagues in the National Museum of Ireland for their help during my week in Dublin; and Dr Julian Baker of the Ashmolean Museum who enabled me to study the Cuerdale coins there despite the disruptions of building work; also all my overseas colleagues who have answered my questions by letter and in person. I am especially indebted to Professor James Graham-Campbell and my colleague Dr Gareth Williams for helpful discussions and comments on my text, and Richard Kelleher for computerising my table (**Table 3.2**) and bar-charts (**Figs 3.3** and **3.4**).

12 Most of the northern hoards have been briefly surveyed by Graham-Campbell (2001b), with Flusco Pike (no. 1) and Goldsborough being fully discussed elsewhere in this volume (**2** and **3**). The coinless hoard from Huxley, Cheshire, briefly discussed by Ager (2007), now forms the subject of a monograph (Graham-Campbell and Philpott (eds) 2009). The recent hoards from Flusco Pike (no. 2) and the Vale of York were still going through the Treasure process at time of writing (2009), although a summary of Flusco Pike (no. 2) appears in Ager and Williams 2008, and of Vale of York in Ager and Williams 2011. For a more detailed discussion of Flusco Pike (no. 2), see Williams forthcoming a; preliminary publications of the Vale of York hoard include: Ager 2011; Ager and Williams 2011; Williams 2008a; 2008c; 2011. For comparative discussions of these hoards, see Williams 2009 and forthcoming a.

CHAPTER 4

Classification and Discussion of the Cuerdale Objects Part 1: Ingots

Susan Kruse and James Graham-Campbell[1]

Scope

The largest group of material for consideration here consists of silver ingots, both complete and fragmentary. These are present in five out of the sixteen of the catalogued hoards from Britain and Ireland (Cuerdale, Goldsborough, Co. Cork, Ballaquayle and Tiree); in addition, there is a single-find of a gold ingot from Co. Cork (**17**). On the other hand, the two ingots from Goldsborough are both lost, although known from sketches (**3:13** and **14**), and three of the other hoards – those from Co. Cork (**9:1**), Ballaquayle (**13:20**), and Tiree (**15**) – contain only one ingot each. The significance of these six ingots is inevitably slight for the purposes of the following discussion, when compared with the total of 363 ingots from the Cuerdale hoard (**1:1–363**) catalogued here by Graham-Campbell, as against the total of 351 catalogued and discussed by Kruse, in 1988, in her unpublished PhD thesis, 'Viking Age Silver Ingots from England and Wales and their Economic Implications' (University College London). Her list of extant Cuerdale ingots (Kruse 1988a, 244–50) did, however, include the 'fake' ingot in the Nelson collection, National Museums Liverpool (LM: 53.114.47, on p. 249; see below, Appendix 2, no. 1).

The discrepancy between these two listings thus becomes thirteen in all, but this is in part due to Graham-Campbell's inclusion of both four lost ingots, known from illustrations (**1:138–40** and **180**), and three small fragments (**1:323–5**) which Kruse considered too small and fragmentary to 'be categorised as ingots, although it is possible' that they had originally been so (1988a, 243). One fragment classified by Kruse as a 'droplet' of irregular section is here listed as 'casting waste' (**1:367**). There are, however, eight small ovoid/circular ingots (**1:174–6, 178–9, 182, 186** and **191**), which appear not to have been available to her for examination.

Definitions and classifications

The term 'ingot' has been used loosely in the literature, encompassing a wide range of forms, fabrics and stages of treatment. German-speaking scholars have tended to differentiate between long sausage-shaped forms (*Barrer*) and circular biscuit-shaped forms (*Gusskuchen*); Danish and Norwegian scholars employ a range of terms, including *barrer* (bars) and *tackor* (billets), and sometimes even *tenar* (rods), generally, but not always, depending on the degree of hammering.

Ingots were manufactured by casting, when molten silver was poured into stone or clay moulds, in most cases left open, or into sand. The production of the smaller 'bean-shaped' ingots and droplets was the result of less deliberate procedures (see below p. 81). The *Gusskuchen* form, on the other hand, was probably produced by pouring silver onto a flat surface (although, in some cases, perhaps, into a mould). Some ingots were hammered to a greater or lesser degree, sometimes maybe to facilitate cutting into pieces, in other cases probably as a preparation towards crafting the silver into objects or jewellery.

In this discussion, the term 'ingot' is used to refer to gold and silver being stored, for whatever eventual purpose, in a form that had no immediate function as a piece of jewellery (and different from coin). Following Lundström (1973, 42), an ingot is defined as being greater than 2mm in thickness (anything thinner being considered 'sheet' metal), where the section is not circular. Casting waste, which is present in the Cuerdale hoard, has likewise been excluded despite the fact that it also had no function as an ornament, given that its production was accidental (see below, pp. 84–5). Such a definition is inevitably somewhat arbitrary, but it is intended to conform to other attempts at defining hack-silver, while stressing the bullion, as opposed to ornamental, nature of the material.

Completely worked ingots, hammered on all sides, can be termed ingots when it is clear that they have no other function, although some worked ingots bent into a ring (and thus, in some cases, possibly worn) straddle the line between ornament and ingot (cf. the 'bullion-rings', discussed in Chapter 5 by John Sheehan, pp. 87–8). Smoothly hammered fragments, on the other hand, can rarely be differentiated from fragments of ornaments, such as arm-rings. For this reason, completely worked fragments have generally not been included as ingots in this context, unless there is some specific reason for supposing that they are unlikely to be fragments of ornaments. As a result, the catalogue will inevitably be somewhat overbalanced towards complete specimens when considering ingots that have been hammered on all sides.

Many ingot shapes are possible, particularly given that hammering can alter the form, but in general ingots tend to be trapezoidal or oval to D-shaped in section, where the original section can be determined. Less common are triangular or rectangular sections. It is more accurate, however, to regard the various ingot sections as sub-forms, given that they rarely achieve geometric precision and, more often than not, are lopsided or have other imperfections. Furthermore, it takes only a small amount of rounding, caused by a hammer or wear, to turn a trapezoid into a high D-shape, or a D-shape into an oval.

This lack of precision in manufacture has hampered attempts to create an ingot typology (e.g. Stenberger 1958, 226–33; Lundström 1973, 37–8, 41–2). The first comprehensive scheme proposed for Britain and Ireland was advanced by Dolley (1960a) in his discussion of the six ingots in a hoard from Mungret, Co. Limerick. He divided Viking-age ingots into three classes:

> Class A Ingots with a roughly trapeze-shaped section, weighing (if complete) up to 3oz [= 93.3g]

Class B Smaller ingots with a square or triangular section, and rounded corners

Class C Wire-like ingots, perhaps from ornaments.

This classification is unsatisfactory, for it does not address the problem of worked ingots (of which there are few in Ireland) and includes a category (Class C) that encompasses a wide range of hack-silver fragments, while compressing the rest of the material into just two categories which manage at once to be both too vague (in section) and too precise (in size). It is not surprising, therefore, that the first attempt to follow this classification met with problems.

In her study of the Cuerdale ingots in the Liverpool and Edinburgh collections, Lewis (1982, 50–2) was forced to add two additional categories to Dolley's scheme: a Class B1 for the small droplets; and a Class D for the distinctive so-called 'mark' ingots, with their trapezoidal form and section.[2]

A new classification was proposed in 1984 on the occasion of the publication of the ingot hoards from Co. Westmeath, when five types (A–E) were distinguished by cross-section (Ryan *et al*. 1984, 335), afterwards increased to six (Type F) by Sheehan (1984, 152–5):

Type A Plano-convex section

Type B Rectangular or trapezoidal section

Type C Triangular section

Type D Oval section

Type E 'Bun-shaped' section

Type F Trapezoidal in both plan and section (= Lewis Class D).

Although this system is of far greater value than those proposed earlier, it still does not cover worked ingots (although the finds under discussion did not include any completely hammered ingots) and leaves a number of ingot fragments unclassified. In addition, there exists the problem that it is often extremely difficult, in practice, to distinguish between plano-convex and oval cross-sections.[3]

The lack of geometric precision in ingot cross-sections suggests that there is little value in presenting an overly complex typology of these objects on this basis. For the purposes of Kruse's study, the ingots were first of all divided into five general types, based on the technique of manufacture or, if not distinguishable, the subsequent workmanship:

Type 1 Standard cast ingots, either unworked or with incomplete hammering allowing the original section to be determined

Type 2 Droplets/bean-shaped ingots (shorter than 2.0cm)

Type 3 *Gusskuchen* (i.e. biscuit-shaped forms, produced by pouring silver onto a flat surface, or maybe a mould)

Type 4 Worked ingots, hammered on all four sides so that all indications of the original technique or section have been obliterated

Type 5 Ingots of irregular form, where the type of manufacture is unclear.

The definition of the droplet/bean-shaped ingot is arbitrary (Type 2), and it is possible that there is some overlap at the upper range of droplets/beans and the lower range of Type 1 ingots.

The ingots were then further classified by their unaltered cross-section, or the cross-section that they would have had if unworked (i.e. on the basis of the form of the moulds in which they were cast), unless they have been hammered on all sides or cut on several faces. So, within these five categories, the cross-sections were noted as best as possible, using an expanded version of Birgitta Hårdh's classification of Viking-age silver objects (1976, I, 8–9) in order to encompass the commonest ingot sections (oval/D-shaped and trapezoidal), as well as some others unique to ingots:

I:	Circular	(not found on ingots)
II:	Square/rhombic	
III:	Triangular	
IV:	Profiled	(not found on ingots)
V:	'*dachförmig*' (roof-shaped)	(not found on ingots)
VI:	Rectangular	
VII:	Multi-sided	
VIII:	Oval/D-shaped	(expanded from Hårdh)
IX:	Trapezoidal	(expanded from Hårdh)
X:	Tapering	(expanded from Hårdh)
XI:	Irregular	(expanded from Hårdh)
XII:	Unknown original	(expanded from Hårdh).

Kruse's resulting classification of 350 Cuerdale ingots (**Table 4.1**) appears at first sight to be complicated, but it allows for the method of manufacture to be distinguished with ease, as well as giving an indication of cross-section comparable to recent studies in Scandinavia (the shaded categories on **Table 4.1** consist of those that are not feasible).[4]

Having divided the Cuerdale ingots by type and cross-section in this way, it is clear that (apart from the droplets/beans) the extant material falls into three main groups, which form the basis for cataloguing here:

(1) Trapezoidal ('marks')

(2) Oblong

(3) Ovoid/circular.

Groups (2) and (3) are sub-divided on the basis of their degree of fragmentation. Ingots in Group (2) are listed as either complete, cut at one end, or cut at both ends, whereas those in Group (3) are either complete or cut in two. The classification of the Cuerdale ingots employed in this Catalogue is thus as follows:

Table 4.1 Classification of Cuerdale ingot types (after Kruse)

Section	Type 1		Type 2		Type 3		Type 4		Type 5		Subtotal		Total
	C	F	C	F	C	F	C	F	C	F	C	F	
I													
II													0
III	11	16	1	0							12	16	28
IV													
V													
VI	7	10	4	0			5	4			16	14	30
VII	1	1					3	0			4	1	5
VIII	65	89	39	0	0	1					104	90	194
IX	35	28									35	28	63
X	6	3									6	3	9
XI	3	1	2	1					0	1	5	3	8
XII	0	13									0	13	13
Subtotal	128	161	46	1	0	1	8	4	0	1	182	168	
TOTAL	289		47		1		12		1				350

1. Trapezoidal 'marks' **(I:1–11)**
2. Oblong **(I:12–140)**
3. Ovoid/circular **(I:141–96)**
4. Oblong, cut at one end **(I:197–273)**
5. Oblong, cut at both ends **(I:274–361)**
6. Ovoid/circular, cut **(I:362–3)**

The Cuerdale ingots: (a) Form and fragmentation

As is evident from the survey of the discovery and dispersal of the Cuerdale hoard (Chapter 2), a substantial number of ingots are now missing, so that it is impossible to arrive at accurate statistics (more so than with any other category of object). However, according to Kruse's study of the extant material examined by her (1988a, 19–20 and 239–50), the following figures may be arrived at:[5]

Complete	Fragmentary	Total
182+	168+	350+

It has only to be recalled, for example, that none of the fourteen Cuerdale ingots sent to Irish collectors (in Cork) has been traced with any certainty, as likewise the fourteen ingots (plus fragments) in the Hawkins (1869) sale – and also that five of the known trapezoidal (or 'mark') ingots have gone missing – to appreciate the fact that the total number of ingots in the hoard must originally have been well over 400 (cf. p. 35).

The degree of fragmentation displayed by the ingots in Kruse's survey may be summarised as follows:

Complete	Cut (1 end)	Cut (both ends)	Cut >3 sides	Fract. (wedge)
182 (52%)	78 (22%)	73 (21%)	16 (5%)	1 (<1%)

It is evident, therefore, that complete ingots are the commonest form in the Cuerdale hoard (and thus the commonest complete form of artefact amongst the non-numismatic silver), with about equal percentages in the degree of fragmentation, given that ingots cut-one-end and cut-both-ends appear in approximately equal numbers, with far fewer having any further cuts. The latter category is, however, probably under-represented, given that once a third cut has been made, it becomes increasingly difficult to identify the object as part of an ingot.

The cast bar ingot (Kruse's Type 1) is the commonest form in Cuerdale (as in all the Viking-age hoards containing ingots), although Cuerdale is notable for also displaying other types in some numbers. The total is 289 (of which 128 are complete and 161 fragmentary).

There is a marked scarcity of completely worked ingots (Type 4) in Cuerdale, but this is a widespread phenomenon in Britain and Ireland, although the problems of differentiating fragmentary worked ingots from fragmentary ornaments have already been mentioned.[6] The total is twelve (eight complete; four fragmentary).

The droplets/beans (Type 2) in the Cuerdale hoard total forty-seven (forty-six complete; one fragmentary), but given the arbitrary nature of the definition (above), it is possible that a few belong to the lower end of the Type 1 ingots. Some have been hammered on the top and bottom, presumably to stop them from rolling. One of the droplets (**I:152**) is grooved down the centre, presumably in preparation for it being cut in two.

The one *Gusskuchen* fragment (Type 3) in the Cuerdale hoard (**I:362**) is unique in Britain and Ireland. Indeed, they are not common elsewhere, although more numerous in the later Gotlandic and southern Swedish hoards (Stenberger 1958, 231).[7] Finally, the one ingot fragment of Kruse's 'Indeterminate' Type 5 (**I:326**) brings the tabulated total to 350 (**Table 4.1**).

Ingots of oval/D-shaped cross-section (VIII) are by far the most common in the Cuerdale hoard (total: 194), as they are in other ingot hoards, although Cuerdale is remarkable in that ingots of trapezoidal cross-section (IX) are well represented (total: sixty-three = 18%), but this is in part due to the eleven extant mould duplicates from the sixteen 'mark' ingots on record. Ingots of triangular cross-section (III) total twenty-eight (8%), with a similar number (thirty) of rectangular cross-section (VI), although the fully hammered ingots (Type 4) are also, as a result, almost always rectangular in cross-section (twelve).

The Cuerdale ingots: (b) Size and metrology

The complete ingots in the Cuerdale hoard range from 0.5 to 12.0cm in length, with almost all ingots below 2.0cm being classified here as droplets. Examination of the lengths (**Fig. 4.1**) reveals no obvious clustering and therefore no indication of preferred target lengths. This does not imply, however, that certain lengths were not being aimed for, but that, for several reasons, the surviving evidence does not provide any insight into the problem. In the first place, the evidence is susceptible to distortion due to the presence of mould duplicates (as shown by the peak at 8.0–9.0cm), and, secondly, by the fact that longer ingots are more likely to have been cut into two or more pieces, suggesting that such ingots are probably under-represented in the material. Overall, however, it is the oval/D-sectioned ingots that are the longest.

Using the chi-square test, it can be shown that the complete ingots in the Cuerdale hoard show a non-random distribution for weight. More problematic is the question of whether to accept fragmentary ingots, but those cut at one end may well have been deliberately divided in half and so may thus display some correspondence. One has only to consider the analogy of a cheese-cutter or butcher today who, with practice, gains the skill to subdivide by eye to within very narrow limits. In general, some fragments, except for the lightest, do indeed appear to conform to weights of complete ingots (**Fig. 4.2**); nevertheless, the wide distribution and small number of fragments heavier than 15g render this difficult of proof.[8] On the other hand, the distribution of the weights of fragments less than 15g cannot be proven to be non-random despite a reasonable sample, so that they were omitted from further analysis.

Full details of Kruse's metrological study of the Viking-age ingots from England and Wales are contained in her thesis (1988a, 85–94; see 1988b, for a published summary).[9] For this purpose, she combined all the available evidence, amounting to 170 ingots (including those from hoards which are not represented in this catalogue).[10] The histogram of complete ingots (**Fig. 4.3**) suggests clusters, with those for ingots weighing over 50g, at 73–76g, 121–31g and 250–58g. The latter two clusters are, however, somewhat artificial because they represent mould duplicates in the Chester and Cuerdale hoards respectively, although interestingly one Cuerdale ingot (**I:14**)

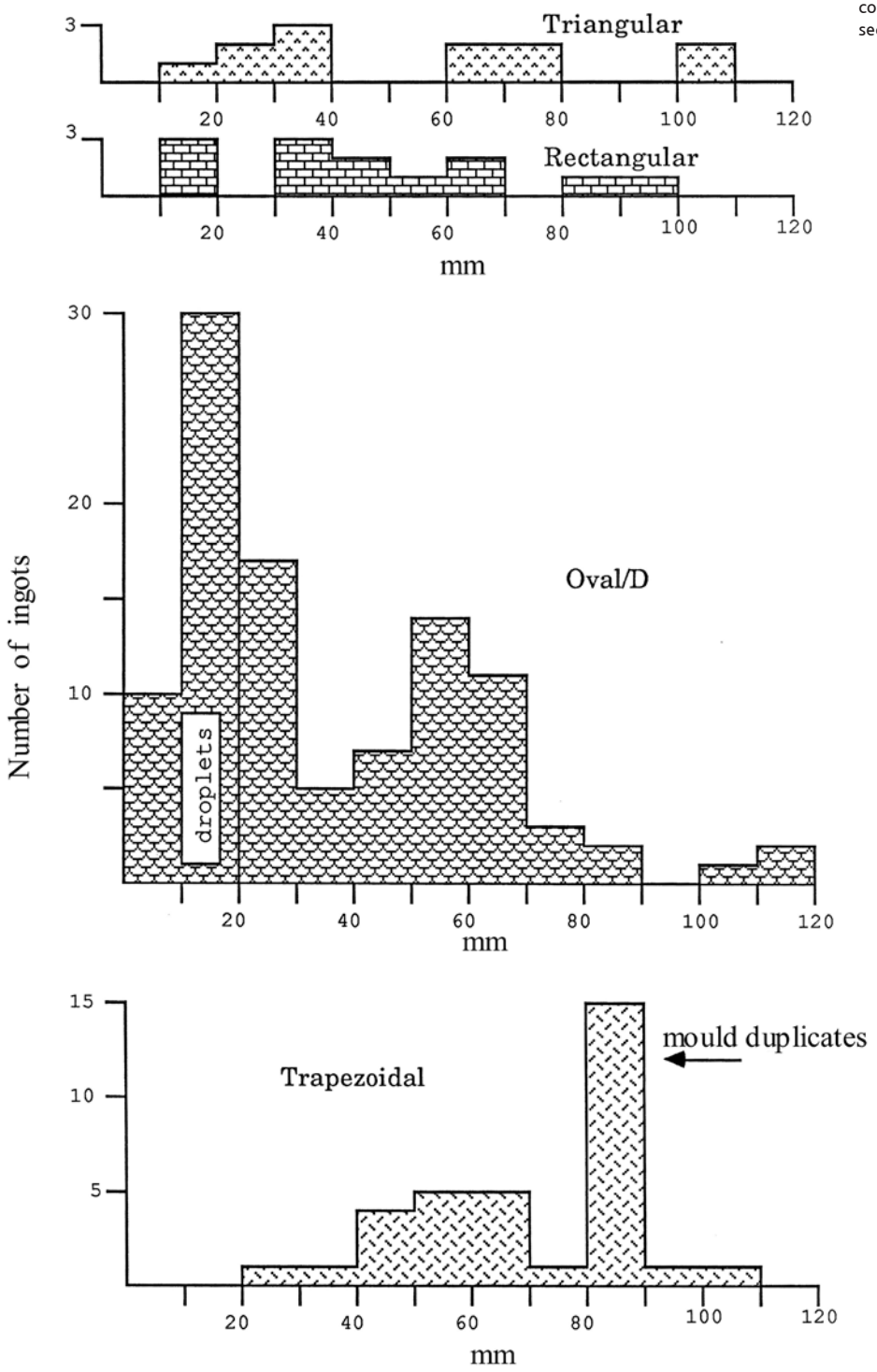


Figure 4.1 The Cuerdale hoard: lengths of complete silver ingots (excluding bent), by section (after Kruse)

nestles within the Chester range (weighing 128.17g).

Given that something was clearly causing there to be a large number of ingots within the 20–30g range (**Fig. 4.3**), a basic unit of *c*. 25–26g seemed possible, with multiples of 3, 5 and 10, to account for the heavier clusters. Sub-units were also looked for, and the ½-unit was found not to fit the data, whereas subdivisions of 1/3 and 2/3 (i.e. *c*. 8.5g and *c*. 17g) fit reasonably well. With adjustments to the standard deviation (depending both on size and fragmentation),[11] it was found that 121 of the 170 ingots lie within 2 standard deviations of the 1/3, 2/3, 1, 3, 5, and 10 basic units. The units tested were 25g, 25.5g and 26g, and of these 26 ± 2g seemed to fit the material best, although there was little to choose between the three.

On the other hand, when further possible units were examined, a 24g basic unit was found to account for ninety-eight ingots. Its fit is approximately as good as that obtained with 25–26g for ingots of up to one basic unit, but becomes much worse for the multiples. However, given that the main multiples derive from mould duplicates, this may not be that significant. Consequently, one can only conclude that 24–24.5g is less likely than 25–26g to be the basic unit, but one cannot be entirely certain.

There is clearly considerable imprecision in the weights of the ingot material, particularly so in the case of the Cuerdale hoard, which is explicable given its size and the diversity of its contents, with no reason to suppose that the objects were either cast or cut at the same time, or even to the same standard. It is unknown for whom the ingots were destined or for which

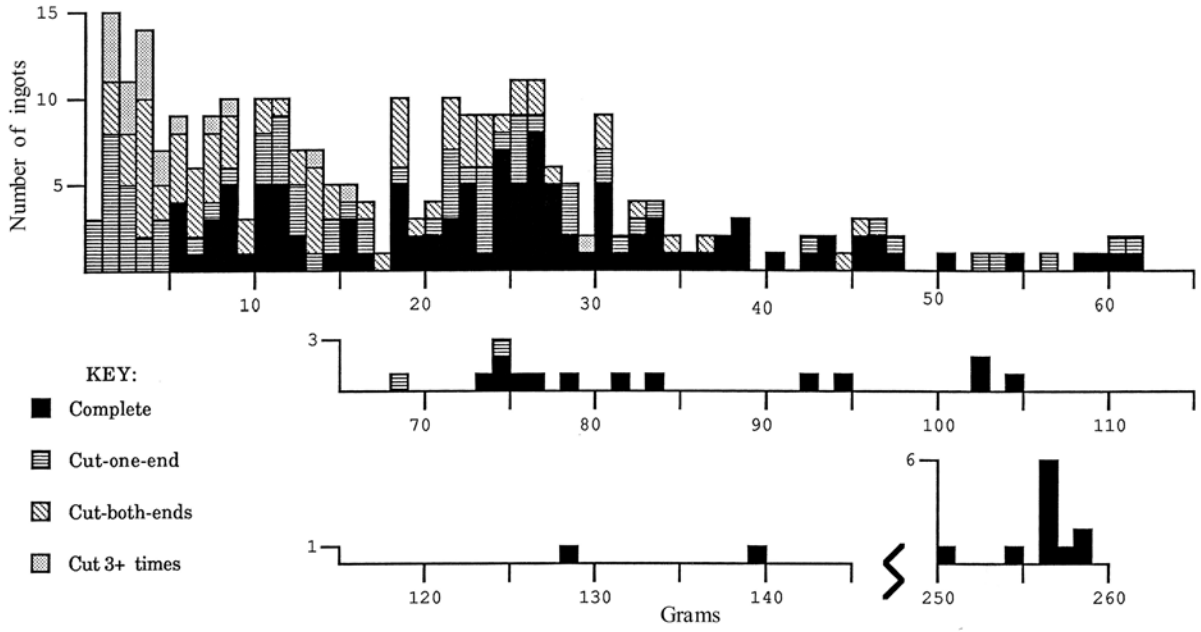


Figure 4.2 The Cuerdale hoard: weights of silver ingots, excluding droplets (after Kruse)

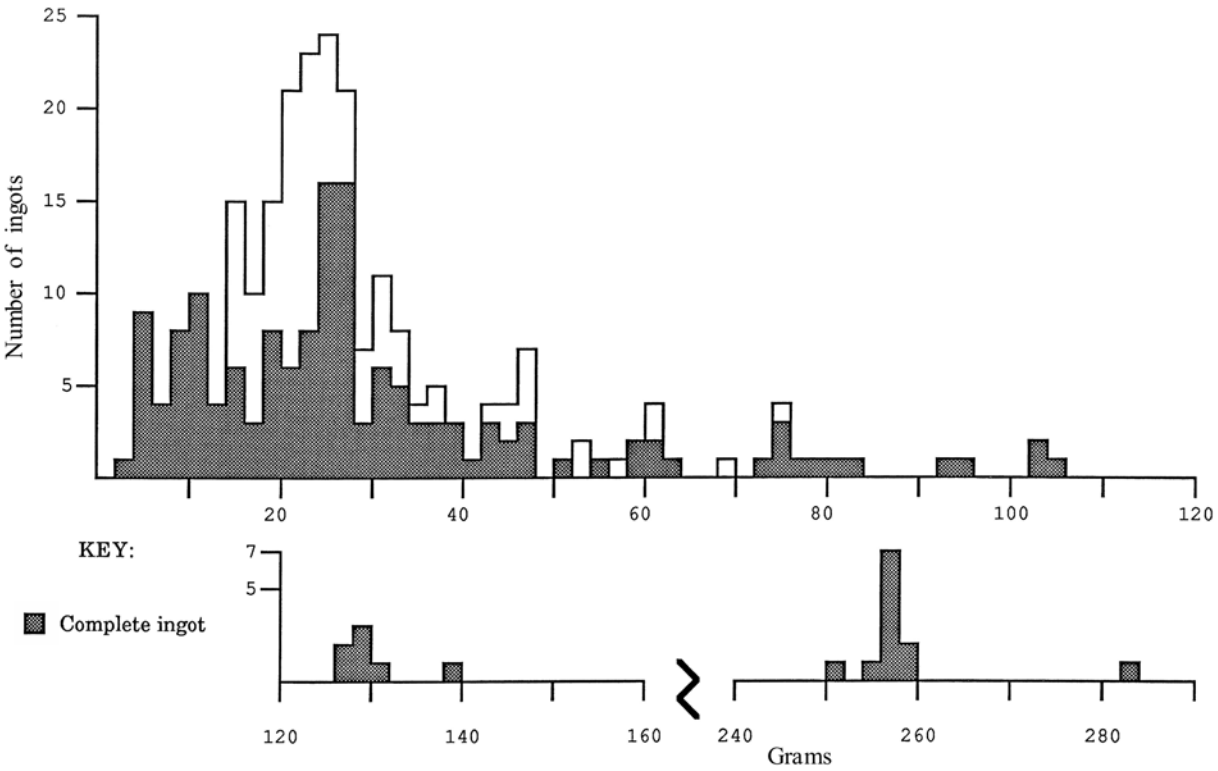


Figure 4.3 Weights of silver ingots and fragments (over 14g), excluding droplets, from England, Wales and the Vatican hoard, Rome (after Kruse)

markets. The ingots may, in the first place, have been cast in several different places to differing standards.

Imprecision may alternatively have arisen if Viking-age craftsmen were not concerned to cast silver ingots within fine limits. In this context, it is of interest to consider the variation in weight between the Cuerdale 'mark' mould duplicates (see (f) and **Table 4.3**, below). The five made in the original (plain) mould have a weight-range of 3.92g, the three from the cross-marked mould have a range of 1.82g, and the three with both cross and crack of 6.29g. These ranges are perhaps maxima, given that differential treatment post-discovery may have affected their weights; nevertheless, they suggest an accepted tolerance of at least 1–2g. However, 3.92g, the weight-range of all the ingots, excluding the lowest, is only *c*. 1.5% of the ingot weight.

It is, nevertheless, worth noting that greater precision was possible when desired, for it is evident that during the ninth century in Denmark the weight unit (of 100g) used on the imported Permian silver rings (see below, p. 88) was adopted. Kruse's weighing of the five ingots in the Erritsø hoard (on an imprecise balance) produced the following results: 100.5, 100.5, 100.6, 201.6 and 206.4g (1988a, 93–4). At the same time, she drew attention to the weights of eight ingots in the Rantrum hoard, Schleswig (Weichmann 1996, 422–6, no. 33, pls 13–18), which has a *terminus post quem* (= *tpq*) of 873 for its deposition. These comprise two definite sets of mould duplicates and a possible third: (i) 48.69 and 49.01g; (ii) 98.32, 100.77 and 101.20g; and the possible (iii) 50.77, 51.01 and 51.76g (the difference ranging from 0.3 to 2.88g, or less than 1% to almost 3% of the ingot weight).

Graham-Campbell (1999, 64) has tabulated the weights of the gold rings and cut rods (¼, ½, 1 and 2 units) in the Vester Vedsted hoard, which has a *tpq* of 913/14, together with those of the gold rings in the late ninth-century hoard from Hoen, in south-east Norway (**Table 4.2**). The Hoen rings are most strikingly weight-adjusted given that they range from 1–11 units (including 3 and 4 units), with a maximum deviation of 2.1 per 100g, or 2% (Graham-Campbell 2006, 76–7).

In summary, therefore, it is only safe to conclude that many of the Viking-age silver ingots found in England and Wales were cast to a unit in the mid-20g – and that this basic unit perhaps corresponded to *c*. 25–26g.

The Cuerdale ingots: (c) Division

The fragmentary ingots in the Cuerdale hoard were generally cut into quite small pieces, with 44% (excluding bent pieces) being shorter than 1.5cm, and 59% being shorter than 2.0cm, in Kruse's survey.

Transverse hammering to produce a flat surface across the width of the ingot (see below, pp. 79–80) was a common preparation for cutting (cf. **Fig. 4.4**). In general, most of the ingots seem to have been cut using a sharp instrument such as a chisel in order to slice through at least half of its thickness, with the remainder then being snapped off. Some ingots, however, show signs of multiple blows, usually at a slightly different angle. A deep groove may represent the initial blow, aligning the cut in the desired position, an important step if the attempt was being made to cut the ingot to a particular size (cf. **Fig. 4.4** and **Cat. Fig. 8**). On the other hand, there are ingots that display lightly scratched crosses (e.g. **1:134**) suggesting

Table 4.2 Weights of gold rings and rod fragments in the hoards from Vester Vedsted, Denmark, and Hoen, Norway

Vester Vedsted hoard	Hoen hoard
Neck-ring: 195.9g	Neck-ring: 1105.9g
Neck-ring: 100.9g	Neck-ring: 296.1g
Arm-ring: 103.6g	Arm-ring: 408.4g
Arm-ring: 97.5g	Arm-ring: 303.6g
Arm-ring: 48.8g	Arm-ring: 101.0g
Arm-ring: 27.3g	
Arm-ring: 24.1g	
Cut rod: 51.1g	
Cut rod: 50.0g	

that some of these, at least, were intended to be guides for cutting.[12]

Some attempts were made to cut silver ingots manufactured in experimental castings (Kruse *et al*. 1988). Even with a modern hard-steel chisel, cutting through an ingot was more difficult than envisioned, necessitating multiple blows; indeed, the easiest method was to cut about one half to two thirds of the way through, then use pliers to snap the ingot in two, as is entirely consistent with the evidence of the extant Viking-age examples. Hammering the area first near the cut did appear to help; however, given the force of the blows needed, the ingots (especially the smaller ones) tended to bow upwards and so hammering on top could also have been the means of flattening them once again.

The Cuerdale ingots: (d) Nicking

The majority of the ingots, as well as the rest of the non-numismatic silver in the Cuerdale hoard, has been nicked. In the light of (c), above, ingot **1:42** has been selected for illustration here (**Fig 4.4**) because it displays a good range of the possible post-production interventions present on Cuerdale ingots, up to and including the modern drill-hole for McKerrell's abortive sampling programme (p. 85, note 30). It has been hammered on the upper face, for about one-third of its length (in which the drill-hole is located); on the lower face, there is a transverse parallel pair of light cuts and a deep wedge-shaped chisel cut. There is one prominent nick on a lower angle. This may be compared, for example, to one side of ingot **1:51**, which is nicked for its full length, including two

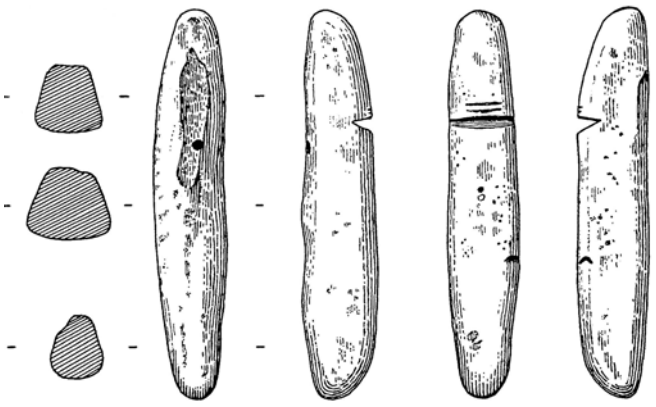


Figure 4.4 Silver ingot from the Cuerdale hoard (**1:42**), with nicking and other interventions

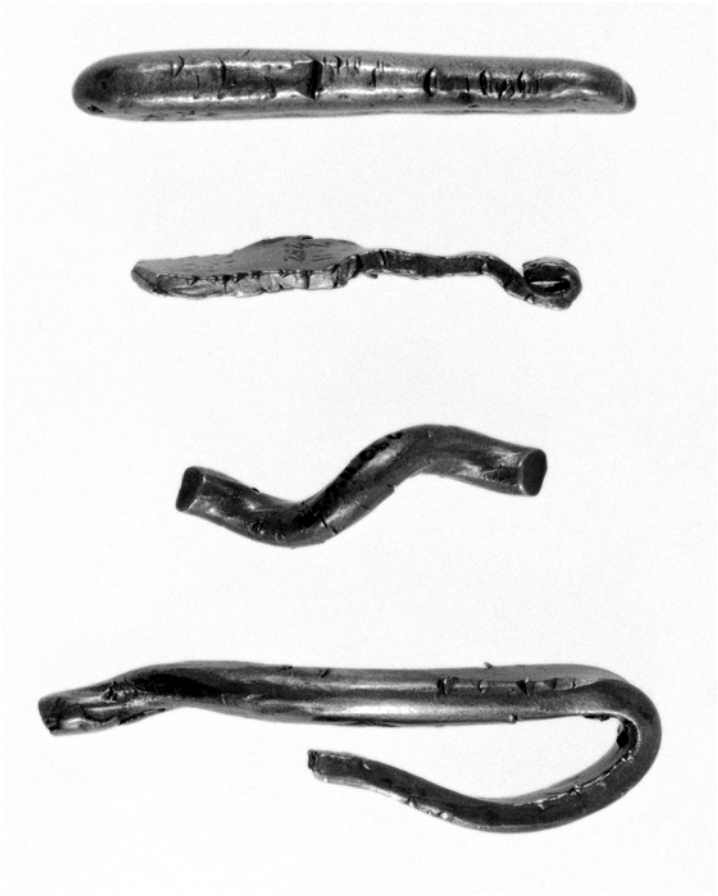


Figure 4.5 Four examples of heavy nicking from the Cuerdale hoard (scale 3:2): silver ingot **1:51**, and three pieces of hack-silver (**1:461**, **744** and **1,059**)

groups of multiple nicking, as also a fragment of an Hiberno-Scandinavian broad-band arm-ring which is the most heavily nicked piece of hack-silver in the Cuerdale hoard (**1:461**; **Fig. 4.5**), with twenty-four nicks along one side (and its angles) and twenty-three along the other (total: forty-eight, including one on its widest cut end).[13]

The distinctive practice of nicking and pecking Viking-age gold and silver artefacts, for the purpose of exposing plated forgeries and/or assessing their fineness by a rule-of-thumb hardness test, is one that does not appear to have been in use in Britain or Ireland in the pre-Viking period (see Archibald above, pp. 61–4). It had, however, become well established in the Irish Sea area before the deposition of the Cuerdale hoard (*c.* 905–10).

In this study, as in the Scottish catalogue, Graham-Campbell takes *nicking* to be the process of cutting 'a notch, grove or slit' (*Shorter Oxford English Dictionary*) in the edge of something, although *slicing* is also used in the catalogue in the case of 'notches' and 'grooves', as opposed to the more usual 'slits'. In contrast, *pecking* involves making 'a prick, hole or dint' (*ibid.*) in the surface of an object.

It is evident, however, that no straightforward equation can be made between the number of nicks on an object and the minimum number of commercial transactions in which it may have been involved.[14] This is because it is clear, from microscopic examination, that it was often the practice to nick an item twice on the same occasion, characteristically on opposite sides from opposite angles, as would have been the case if the object had been turned in the hand between nicks. A small cluster of nicks of similar appearance (angle and depth) is also best interpreted as the result of a single event.

A particular problem in the quantification of nicking, on Viking-age ingots, ornaments and hack-silver, is that contemporary wear, as well as both post-depositional and post-discovery factors, may have resulted in small nicks having become closed up or otherwise obscured (e.g. through corrosion and/or abrasive cleaning). The figures for nicking recorded in this catalogue are thus sometimes necessarily approximate and can differ between Kruse's 'visual' inspection of 345 ingots and Graham-Campbell's attempt to record them, as consistently as possible, by means of low-level microscopic examination.

As can be seen (below), most of the Cuerdale ingots have fewer than five nicks, although one ingot (**1:51**), despite being only 5.0cm long (Wt: 19.03g), has over thirty nicks. In general, however, of the ingots tested by XRF, those of less pure silver did not have significantly more nicks than the others.

Nicks:	0	1–4	5–9	10–14	15–19	20–24	25–29	30–34
Nos:	52	164	80	30	12	6	0	1

The fragmented ingots have, in general, more nicks than the complete ones, but this is probably the result of their having been longer in circulation, so that such ingots were re-checked on passing hands.[15] The Cuerdale figures are: 21% of the complete ingots have no nicks, compared to only 8% of the fragmentary ingots.

The Cuerdale ingots: (e) Hammering

The extent of the hammering found on the ingots varies from a slight flattening, near the cut, to an overall, complete hammering (Kruse 1988a, fig. 2.15):

No hammering	possibly hammered	some hammering	completely hammered
58%	12%	23%	7%

However, if one looks at the hammering of fragments alone, then the Cuerdale fragments display a greater degree of hammering than is evident in later hoards (Kruse 1988a, 40, fig. 2.16):

No hammering	possibly hammered	some hammering	completely hammered
38%	21%	34%	7%

The hammering of ingots was mostly intended to produce a smooth surface, but 58% of the hammered Cuerdale ingots have a transverse groove produced with a heavy hammer. The reasons for hammering in general, and this transverse hammering in particular, have been the subject of some debate. Some ingots will have been hammered as preparation for fashioning into jewellery, but hammering also allowed for ease of storage, and it provided a better surface for sub-division (and nicking), if such was required. However, the fact that only 12 (out of 350) Cuerdale ingots have full transverse hammering shows that this was, at that period, a relatively unimportant treatment, but see also that recorded from Torksey, Lincs (Blackburn 2011, 260, pl. 4,6). Hammered ingots selected for analysis proved to have a normal 'silver' content.

Hammering has also been noted on some Viking-age gold ingots, including that from Co. Cork (**17**) discussed below (p. 84).

The Cuerdale ingots: (f) Mould duplicates

The so-called 'mark' ingots in the Cuerdale hoard (even though only eleven are still extant out of the total of sixteen, or more, known to have been found) provide an important opportunity to study the phenomenon of 'mould duplicates' in ingot casting. These distinctive ingots (**Fig. 4.6** and **Pls 1–2**) were recognised from the beginning as unusual (Hawkins 1847, 112, fig. 1), and their fresh appearance, size and weight (and especially those

Figure 4.6 Proposed casting sequence for six of the Cuerdale 'mark' ingots, beginning with **1:1** (top left), followed by **1:6–7** (with cross); after the crack occurred, as on **1:9** (bottom left), there was a declining 'freshness' in detail, as **1:10–11**

with the raised cross) have caught the attention of many scholars (e.g. Ridgeway 1892, 397; Chadwick 1905, 45).

In fact, these ingots are not strictly speaking all 'mould duplicates' because they exist in three versions: five are plain; three have the raised cross; and three more have both the raised cross and a diagonal ridge, resulting from a crack in the mould. It is possible that more than one mould was used to cast this series of ingots, but the close similarities between some of the plain and cross-marked examples suggest that it is more likely that only one mould was used, modified at some point by the cutting of a cross into its base, which subsequently cracked in use (**Fig. 4.6**). The fresh condition of the extant 'mark' ingots, with little nicking (**Table 4.3**), together with the closely similar metallurgical results for those analysed (p. 192), both suggest that this group of ingots was probably cast within a short period of time, after which the individual examples do not appear to have been long in circulation. It can only be a matter of speculation that it was the cracking of the mould during the casting of one of the cross-marked ingots, which was most probably **1:9** (**Fig. 4.6**), that caused its silver to be tested more times than any of the other marks (**Table 4.3**).

Amongst the other Cuerdale ingots, the most likely mould duplicates are **1:111** and **135** (see **Table 4.4**). The next pair (**1:35** and **121**) share a distinctive shape, with one end tapering to a point, although the section of **1:35** is tapering, with a trapezoidal cross-section at one end (0.8cm) and an oval at the other (0.61cm), whereas **1:121** has a high D-shaped and almost trapezoidal section; however, these differences might have arisen from unequal pouring of silver into the mould. Even less likely, although they cannot be ruled out, are the following two pairs: **1:20** and **31**; and **1:27** and **54**. The last ingot is, however, in very poor condition, with a large hole and cracks obscuring surface detail and affecting its weight.

Table 4.3 The Cuerdale hoard: the extant mould-duplicate 'mark' ingots
Key: + = cross-marked; cr = cracked

Cat. no.	L (cm)	W (cm)	T (cm)	Wt (g)	+	cr	Nicks
1:1	8.46	2.72	1.49	256.01	-	-	-
1:2	8.59	2.66	1.53	256.39	-	-	-
1:3	8.50	2.73	1.54	258.77	-	-	-
1:4	8.45	2.70	1.51	254.85	-	-	-
1:5	8.61	2.77	1.50	257.86	-	-	-
1:6	8.57	2.80	1.69	258.10	+	-	-
1:7	8.62	2.77	1.64	256.28	+	-	1
1:8	8.50	2.82	1.64	256.81	+	-	2
1:9	8.51	2.84	1.60	256.84	+	cr	8
1:10	8.54	2.88	1.62	256.45	+	cr	-
1:11	8.55	2.78	1.53	250.58	+	cr	-

Table 4.4 The Cuerdale hoard: possible pairs of mould-duplicate ingots (after Kruse)

Cat. no.	L (cm)	W (cm)	T (cm)	Wt (g)	Nicks
1:111	4.00	1.07	0.64	18.22	3
1:135	3.91	1.06	0.72	18.01	4
1:35	5.65	0.98	0.80	28.05	4
1:121	5.49	0.96	0.85	27.75	8
1:20	7.85	0.78	0.81	24.01	-
1:31	7.69	0.83	0.71	27.89	6
1:27	4.93	1.40	0.83	31.02	-
1:54	4.83	1.32	0.70	27.23	-

The Cuerdale hoard: (g) Other casting features

Some of the distinguishing features of the ingots reflect casting conditions. For instance, the pitting on the ingots varies from extremely pronounced to practically non-existent, presumably the result of the type of mould and the temperature used in casting (Kruse 1988a, chapter 3). Wear during circulation, as well as post-depositional corrosion, has also affected surface condition. The spurs that are present on 13% of the Cuerdale ingots (e.g. **1:59**) are a by-product of casting, as also are the 'puckering' and slight depressions on the bottom of the ingots. In some cases, the amount of silver poured overflowed the mould so that the resulting ingots have a distinct lip or flange (e.g. **1:49**).

One of the more interesting results of the casting experiments initiated by Kruse (Kruse *et al*. 1988) was that when insufficient silver was poured into a mould a small droplet or bean-shaped ingot was formed. This was, therefore, the reason for their exclusion from the metrological analysis (above). The experimental castings used sand, soapstone and clay moulds; each produced ingots corresponding to those in the Cuerdale hoard, leaving no doubt that all three were used during the Viking Age. The popularity of soapstone for ingot moulds was made abundantly clear during the experimental castings because the matrices were easy to prepare, and the excellent heat-conducting properties of the stone ensured satisfactory ingot-production, despite fluctuations in temperature. Casting in sand was easy (and cheap) and, from the evidence of the extant ingots, was clearly often used.

Several of the Cuerdale ingots have textile impressions on the face(s) that would have been in contact with the mould (**1:47**, **74–5**, **86**, **204**, **350** and **361**; **Fig. 4.7**), and there are others which appear to have such impressions, but which are too worn to determine with certainty. An experimental casting suggested to Kruse *et al*. (1988) that these impressions (discussed more fully below by Hero Granger-Taylor) were not formed by pouring molten silver into woven material, because the temperature of the silver ignited the cloth, with no textile impression apparent on the resulting ingot. However, subsequent expert examination of these particular impressions (in 1990) determined them to be in negative, with dendritic formations in and around them (as described by Nigel Meeks, in Granger-Taylor's textile report, p. 82). The obvious explanation for these features is that cloth (probably linen) had indeed been in contact with the molten metal; as pointed out by Granger-Taylor; further experimental castings are needed to investigate this matter more fully.[16]

The Cuerdale ingots with fabric impressions are paralleled in Ireland by an ingot from the coinless hoard found at Carraig Aille II (Lough Gur), Co. Limerick (Ó Ríordáin 1949, 64), and by two of the ingots in the Dysart (no. 4) coin-dated hoard, Co. Westmeath, deposited *c*. 910 (Ryan *et al*. 1984, 339–40).

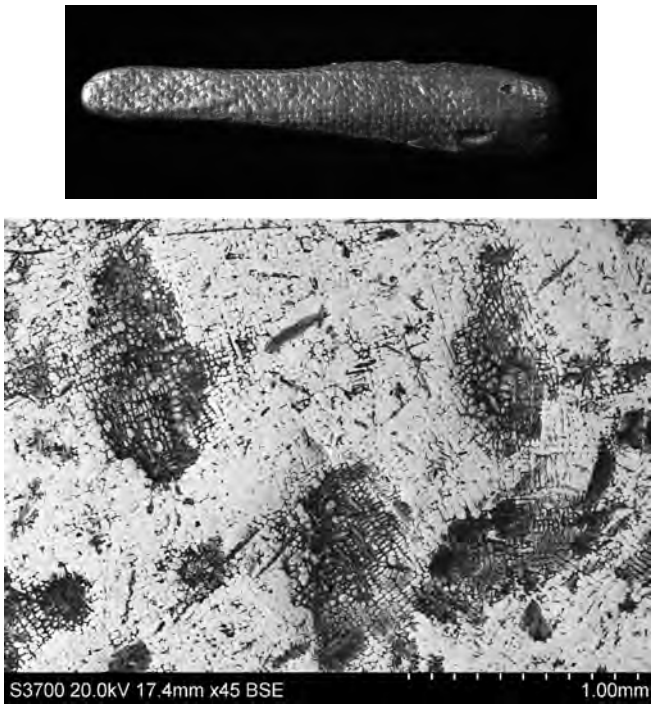


Figure 4.7 Cloth-marked silver ingot from the Cuerdale hoard (**1:47**), with SEM photo

Textile impressions on five silver ingots

Hero Granger-Taylor[17]

These textile impressions have the appearance of being in negative (as discussed further below) and, partly because of wear on the ingots, it is difficult to describe the textiles themselves with accuracy (e.g. spin-direction is not visible). In general, the characteristics are those of cloths woven on a primitive loom: with warp threads dominant, half of them lying further towards the front of the cloth than those in-between, etc. The fibre is not evident, but linen rather than wool is suggested by the distinctness of the threads and by the rather open and balanced weaves. Each of the five textiles examined is slightly different.

Ingot 1:47 (MME: 1841,0711.38) Tabby weave (the clearest impression is that in **Fig. 4.7**), rather open, with the weave being more balanced than on **1:74** or **75**, but the threads in one direction, probably the warp, are nevertheless slightly more dominant, causing the threads in the other direction to curve around them. Threads lengthways on the ingot (probably the warp): *c.* 11–12 per cm; threads widthways (probably the weft): *c.* 12–14 per cm.

Ingot 1:74 (MME: 1841,0711.65) Tabby weave, with well-spaced threads. The threads in one direction, probably the warp, are very much the more dominant; in addition, every other thread in this direction lies further towards the front of the cloth than those in between. Threads lengthways on the ingot (probably the warp): *c.* 8–9 per cm; threads widthways (probably the weft): *c.* 12–14 per cm.

Ingot 1:75 (MME: 1841,0711.66) Very fine tabby weave, with the threads in one direction (probably the warp) being the more dominant. Threads lying approx. across the ingot (probably the warp): *c.* 16–17 per cm; threads approx. along the ingot (probably the weft): *c.* 20–21 per cm.

Ingot 1:86 (MME: 1841,0711.96) Unclear, but a fine tabby weave, rather open. The threads in one direction, probably the warp, are the more dominant. Threads lying across the ingot (probably the warp): *c.* 11–12 per cm; threads along the ingot (probably the weft): *c.* 16–18 per cm.

Ingot 1:204 (MME: 1841,0711.110) Fine tabby weave, with its threads producing deep depressions on the silver; as with **1:74**, the threads in one direction are the more dominant and, of these, every other one lies further towards the front of the cloth. Threads lying diagonally from upper left to lower right (probably the warp): *c.* 11–12 per cm; threads lying diagonally the other way (probably the weft): *c.* 16–18 per cm.

Technical notes

The impressions on these silver ingots are of textiles in negative, as would result from direct contact of cloth on metal, and in this respect they differ from those on the reverse of some Viking-age cast ornaments, such as oval brooches, which are positive and thus have the appearance of an actual textile (e.g. Jansson 1985, fig. 106). A notable characteristic of the textile impressions on the silver ingots is the presence of dendritic formations in and around them. Ingot **1:75**, which is much worn, has dendrites only in the hollows, but **1:47** (less worn) retains them even on the higher surfaces (**Fig. 4.7**). These were examined by Nigel Meeks (BM Research Laboratory), in the Scanning Electron Microscope, and he reported that it was unlikely that such dendrites would have formed had the silver been in close proximity with a normal mould surface as it solidified. Dendrites will usually be inside the cast metal object, having grown inwards from the mould surface as the metal cooled. On the Cuerdale ingots they appear in many of the negative (cloth) depressions as very open dendritic structures, similar to shrinkage porosity dendrites in other objects, although more extensive than usual. Gold granules formed from molten gold that has fallen onto charcoal also have such surface dendrites.

The obvious conclusion, in the case of these Cuerdale ingots, is that the silver had been in direct contact with actual textile when it was cast. The textile would have been charred or burnt up by the molten metal, which might have produced gas porosity on the surface, inhibiting the normal setting of the metal to the extent that dendrites formed in the manner observed. However, further casting experiments are needed in order to test this hypothesis. Meanwhile, there is no clear explanation for the presence of the textile, although it might have facilitated the removal of an ingot when set in a clay mould – or if used in sand, the textile turning to carbon would have created a reducing atmosphere.

The Cuerdale ingots: (h) Silver content

The Cuerdale ingots are conspicuous for their relatively pure silver, given that (with the exception of the 'fake' mark) none falls below 90% silver; indeed, when gold, silver and lead are added together, the majority are greater than 95% 'silver' (see p. 192, **Cat. Table 1**; Kruse and Tate 1992).[18]

In general, it seems that the silver utilised for the production of the Cuerdale ingots derived from a number of

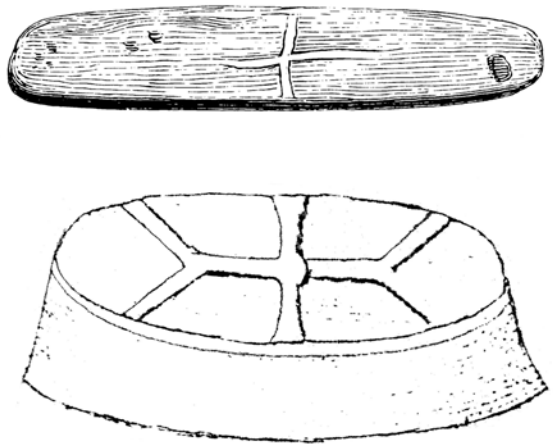


Figure 4.8 Cross-marked silver ingots from Ireland: (top) Newry, Co. Down (after Armstrong); and (below) Hare Island, Co. Westmeath (after Vallancey)

different sources, perhaps in mixtures of coins from different areas. What does seem to be clear, however, is that none of the ingots analysed corresponds directly with the silver content of Arabic coins, which display very high silver (97–98%), with relatively high bismuth (0.2–0.4%), an absence of zinc, and very low gold (0–0.2%). The only possibility amongst the objects analysed is a small fragment of 'bullion ring' (**1:682**), which is of high silver (97.7%), but unusually low gold (0.1%), with bismuth and zinc both 'not detected'.

Three Cuerdale ingots, among those analysed, are noteworthy in containing no lead (**1:126**, **192** and **262**), with the rest of the elements fairly consistent, so that they would appear to be from the same metal source – one that was evidently quite pure. One of the small circular ingots, hammered top and bottom (**1:195**), has a silver composition reminiscent of Burgred of Mercia's coinage (852–74), and its multiple nicking (about fifteen) is suggestive that it might have been long in circulation. Three of the four mould duplicates, of the plain 'marks' (**1:2–5**), which were analysed by Kruse and Tate (1992), contain a slightly higher level of zinc than most other ingots (p. 192), but the comparative evidence is too slight to interpret. However, taken together as a group, the six 'mark' ingots so far analysed have a consistently high copper content (all within the range of 5–7%). Further, it was observed by Janet Lang, after undertaking some further analyses (in the BM Research Laboratory), that the silver used for the production of the Cuerdale ingots had been deliberately alloyed with copper, given that it is not difficult to reduce the copper content of silver to 0.5% by cupellation (McKerrell and Stevenson 1972).[19] Although the quantity of copper present in the thirty-nine other Cuerdale ingots to have been analysed ranges from 0.8 to 6.5%, three-quarters of them contain 3% or more (see p. 192).

In summary, the Cuerdale ingots appear to be of similarly high-quality silver, but certain small groupings have been tentatively suggested, from amongst the relatively small number of objects that have been analysed to date.[20] Little of this silver appears to have been directly derived from Arabic coins, although more analyses of contemporary Arabic coins would be needed to state this with any certainty. The mould duplicates are of particular interest, probably suggesting a single source of silver, even if one for which no obvious origin is known.

Cross-marked ingots in Britain and Ireland

The six 'mark' ingots with raised crosses (**1:6–11**) are not in fact the only cross-marked ingots in the Cuerdale hoard, because one standard oblong ingot (**1:127**) has likewise a raised cross, with one arm longer than the other. One other ingot has a series of ridges across its upper surface (**1:44**), forming a diagonal cross at one end and a V-shape across the centre. The only other 'ornamented' ingot is a terminal fragment unique in being ring-stamped (**1:227**; **Cat. Fig. 7**); this 'is atypical and one can only assume that at some point it served as a trial-piece, or merely to fill the time by a bored craftsman' (Kruse 1988a, 42).

The seven extant cross-marked ingots from Cuerdale are not, however, unique because other such cross-marked ingots are known from Ireland. An oblong ingot from Newry, Co. Down (Armstrong 1915, 289–90, pl. xxv,1; Bøe 1940, 107),[21] provides one such parallel (**Fig. 4.8**), but a nearer one for the Cuerdale 'mark' ingots is possibly provided by the early nineteenth-century sketch (**Fig. 4.8**) of one of the oddly-shaped, but lost, silver ingots from the Hare Island hoard, Co. Westmeath (Graham-Campbell 1974, 279). Information concerning a metal-detected silver hoard at or near Tyrrellspass, Co. Westmeath, as given to Eamon Kelly, of the National Museum of Ireland, Dublin, described it as consisting of 'four or five ingots, slightly smaller than the Dysart ingots or the Carrick-type ingots, but of that sort, and two of them had crosses on them'.[22]

Other silver ingots: Goldsborough, Co. Cork, Ballaquayle and Tiree hoards

The five remaining silver ingots catalogued here all belong to Graham-Campbell's Group (2) 'oblong'. They are present in four hoards – from northern England (Goldsborough), Ireland (Co. Cork), the Isle of Man (Ballaquayle), and western Scotland (Tiree).

The two ingots known from the Goldsborough hoard, deposited *c.* 925, are both lost (**3:13** and **14**), but insofar as their details may be determined from the sketches made by Albert Way (**Pl. 65**), on the occasion of their display to the Society of Antiquaries of London (in February 1849), they are unremarkable in the context of the Cuerdale ingots already discussed. They were apparently both terminal fragments (i.e. cut at one end).

The Co. Cork silver ingot is a complete oblong specimen (**9:1**), of standard type with D-shaped section and rounded ends; it has been both nicked and bent into a loop, around which two pieces of hack-silver have themselves been looped. The one ingot from the Tiree hoard (**15**), deposited *c.* 970, is likewise a complete example of standard oblong type, although hammered (L 5.0cm; Wt 17.23g); it has been nicked. The assorted bullion in the Ballaquayle hoard, also deposited *c.* 970, includes only one ingot (**13:20**), which, although once again complete (and with no nicks), is remarkable only for its small size (L 3.0cm; Wt 6.2g).

Although none of these hoards contains an example of a Group (3) 'ovoid/circular' ingot (incorporating Kruse's Type 2 'droplets'), it is worth pointing out that such are known from hoards in north-west England and Ireland until the end of the tenth century. The Chester (Castle Esplanade) hoard, deposited *c.* 965 (**Fig. 1.12**), which it was suggested above (p. 13) has Irish or Manx characteristics, contains six discoidal hammered

ingots (Webster 1953, 29, nos 41–6, pl. ix,b). The Ladestown, Co. Westmeath, hoard (with a *tpq* for its deposition of 985) contains two droplets and a hammered discoidal ingot (Graham-Campbell and Sheehan 2009, 84).[23] There are two further Irish hoards that contain such droplet/bean-shaped ingots: Dysart Island (no. 4), Co. Westmeath (*c.* 910),[24] and Mullingar (no. 1; or 'Marl Valley'), Co. Westmeath (*c.* 986). In addition, there is an example among the silver from Woodstown 'Site 6', Co. Waterford (O'Brien *et al.* 2005, 69). Finally, it may be noted that the Dunmore Cave hoard (no. 2), Co. Kilkenny (*c.* 968), contains a discoidal ingot (Bornholdt Collins 2010).

Silver ingot hoards

In this catalogue, complete ingots and their fragments constitute approximately one-third of the recorded bullion contents of the Cuerdale hoard, which is by no means a remarkable proportion. For example, as already noted in Chapter 1, the non-numismatic contents of the Chester (Castle Esplanade) hoard, from *c.* 965, consist of approximately 50% ingots/fragments (pp. 11–13; **Fig. 1.12**), whereas the hoard from Glenfaba, Isle of Man (deposited *c.* 1030), contains twenty-five ingots/fragments to one arm-ring (p. 14). The coinless hoard from near Bowes, Co. Durham, also mentioned in Chapter 1 (p. 10), consists of twenty-one pieces of bullion of which nineteen are complete or fragmentary ingots.

It would seem that in Britain and Ireland (at any rate), only the smallest silver hoards consist exclusively of standard Viking-age ingots. Sheehan has drawn attention to the hoard from Newry, Co. Down, containing 'at least three ingots' (see above, p. 83 and note 21; **Fig. 4.8**), and a four ingot hoard is on record from Knock, Co. Mayo (Ryan *et al.* 1984, 337, note 1).[25] In England, there is a five ingot hoard (two complete mould duplicates and three fragments) known from Hindringham, Norfolk.[26]

In terms of weight, the extant ingots/fragments from the Cuerdale hoard, but also including the three lost ingots recorded by Roach Smith (**1:138–40**; **Pl. 17**), amount to 10.44kg. The eleven extant 'marks' contribute 2.82kg to this total, but given that a further eight 'marks' appear to be missing (see Chapter 2), at an average weight of 256g, some 2.06kg needs to be added to this total, meaning that the contribution by the 'marks' to the weight of the hoard will have been nearly 5kg. In addition, there are the forty-three (or so), identifiably missing, standard ingots/fragments (p. 35), with a minimum estimated weight of *c.* 0.86kg, to be included – together with the ingot component in the Hawkins sale, which is reported to have weighed 38¼oz (or *c.* 1.19kg). The estimated total weight of the Cuerdale ingots/fragments is therefore not less than *c.* 14.55kg, or *c.* 15kg in round figures, which amounts to almost one-third, by weight, of the complete hoard.

On the other hand, given that the Duchy's total allocation of Cuerdale bullion to Edward Hawkins (in 1846) amounted to *c.* 1.44kg by weight, the fact that as much of it as *c.* 1.19kg consisted of ingots/fragments suggests that the majority of the remaining bullion which has not been accounted for (*c.* 10kg) will likewise have been in the form of ingots. In this case, the Cuerdale ingots and fragments may have amounted to as much as *c.* 25kg of silver, which means that they could have made up nearly 60% of the total estimated weight of the hoard.

Gold ingot from Co. Cork

This single-find of a gold ingot from Ireland, provenanced only to 'Co. Cork' (**17**), was for long attributed a Bronze-age date, but it has recently been agreed to be of Viking-age manufacture (Cahill 2006, 263–4), a conclusion supported by the subsequent recognition of a pair of small nicks.[27] An important aspect in the initial re-dating was the fact that it has been facetted by hammering, in a manner familiar from Viking-age silver ingots, as well as a gold ingot from Askeaton, Co. Limerick (Cahill 1993–94, 10–11). An important find of a hammered gold ingot from England was made during the (1999) Library Car Park Excavations in Norwich, Norfolk, although unfortunately from an unstratified context (*Treasure Annual Report 2000*, no. 66; Blackburn 2007a, 89, fig. 5.6, no. C1).

Some twenty gold ingots, with at least some claim to be of Viking-age date, had been recorded from Britain and Ireland by the end of 2005.[28] However, many of these are recently metal-detected finds, which have yet to be fully published (see *Treasure Annual Reports*, and Blackburn 2007a, 89–93: 'Inventory of gold ingots and hack-gold from England'). Most are therefore single-finds and some, at least, are of uncertain date, although there can be no doubt about the attribution of the two gold ingot fragments associated with Viking-age gold finger-rings in a coinless hoard from the Hebrides (Graham-Campbell 1995, 127–9, no. 25, pl. 50,a).

Casting waste, sheet scrap, etc.

Cuerdale is the only hoard in this catalogue to contain silver casting waste (**1:364–9**), sometimes misleadingly described as 'slag', and also scrap silver in the form of four small featureless pieces of cut sheet (**1:370–3**), although there exists the possibility that one of the latter might have been the terminal of a small penannular band arm-ring (**1:372**). Although Stenberger (1958, 226–33) chose to include sheet silver (*Bleche und Platten*) in his discussion of the ingots from the Gotlandic hoards (*Stangen und Barren*), it was excluded by Lundström (1973, 42), followed by Kruse (1988a, 13), who in part defined 'an ingot as greater than 2mm in thickness (anything thinner being considered sheet silver [or] *Blech*)'.

Four of the six pieces catalogued here as casting waste (**1:364–9**) are essentially amorphous lumps of silver (**1:365–8**), of accidental production, although one of the others is too small for it to be established, with any certainty, whether it might not in fact be derived from an ingot (**1:364**). The sixth piece (**1:369**) is different in form, being 'a semi-molten fragment of knitted wire chain' (cf. **1:1,086** and **1,089**).[29]

The presence of casting waste and sheet scrap is to be noted in some other Viking-age silver hoards from England and Ireland. Indeed, it is of particular interest that one of the Irish silver hoards which has other parallels with Cuerdale, that from Ballywillan (Lough Kinale), Co. Longford, contains two (joining) pieces of sheet scrap.[30] A further hoard from the north of England, consisting mostly of ingots and fragments, that deposited on Bowes Moor, Durham, contains a piece of casting waste (Edwards 1985, no. 18), whereas the substantial Chester (Castle Esplanade) hoard, deposited *c.* 965, includes 'a small fused mass of silver weighing 4.10 grammes' (Webster 1953, 29); in addition, casting waste was found alongside hack-silver at the site of Llanbedrgoch, on Anglesey (Redknap 2006, 28–9). There is also casting waste in the Rivory hoard, Co.

Cavan, as well as among the assemblage of silver from Woodstown 'Site 6', Co. Waterford (O'Brien *et al*. 2005, 81–2).[31]

The presence of waste and scrap silver, and/or unfinished objects, in a Viking-age hoard does not necessarily indicate that such represents the stock-in-trade of a silversmith. As recently discussed by Graham-Campbell, in the context of the nature of the tenth-century hoard from Skaill, Orkney (1995, 41 and 47), there are two other factors for consideration. Has the waste/scrap, together with any unfinished objects, been circulated as bullion, alongside other hack-silver, as will be indicated by the absence/presence (and intensity) of any nicking? And, secondly, there is the necessity of considering the presence/absence of any equipment or other material that would be potentially relevant to the work of a silversmith at this period.

There is no doubt that, in the case of Cuerdale, the waste/scrap material was in circulation as hack-silver – and that the same can be said for the few unfinished pieces that also form part of the hoard, all of which consist of fragments. The degree of nicking on the waste pieces identified above ranges from none to two on the lumps, with a group of multiple nicking (*c*. 7) on the semi-molten chain fragment, whereas the sheet scrap ranges likewise from none to ten (with the other two fragments having five and eight nicks respectively).

Unfinished objects in the Cuerdale hoard include six imported spiral-striated rod fragments (**1:407–12**; **Fig. 5.3**, nos 51–2), with from two to thirteen nicks each, and the penannular brooch 'rough-out', in two pieces (**1:1,017–18**), both with two nicks (**Fig. 6.5**). An unfinished rod arm-ring (**1:888–9**) was divided in two – and thus likewise converted into hack-silver – before having been bent into shape (and its terminals linked).[32] The hank of silver wire (**1:1,091**) is to be included amongst such part-made objects and manufacturing materials; a couple of similar hanks of wire form part of the Chester (Castle Esplanade) hoard (**Fig. 1.12**), which was deposited *c*. 975 (Webster 1953, 29).

The Goldsborough hoard contains a rod fragment (**3:6**), with a single nick, which is catalogued here as manufacturing waste – presumably from the production of a piece of 'ring-money'.

There is no reason to suppose, therefore, that any of the hoards referred to in this brief discussion represent metalworker's stock nor, in the case of Cuerdale, that its content specifically includes any silver from such an assemblage. On the contrary, it would appear that the pool of hack-silver circulating in the Irish Sea region was capable of absorbing silver in any state or form, if only because its quality could be tested by nicking.

Notes

1 The sections on ingots represent an edited and updated version (by James Graham-Campbell) of the most relevant portions of Susan Kruse's unpublished PhD thesis (1988a), jointly agreed between us.

2 The term 'mark' ingot is utilised in this discussion merely for convenience, being that used in the earliest literature on the hoard.

3 A further, simplified (three-fold), typology was advanced by Ralf Wiechmann for his analysis of the ingot material from Schleswig-Holstein (1996, 65–8).

4 Table 4.1 is a revised version of that prepared by Kruse for her thesis (1988a, fig. 2.3); it is not to be expected that the figures arising from Kruse's classification should exactly coincide with Graham-Campbell's, given that the ingots were examined independently by him for the purposes of this catalogue.

5 Kruse's revised total of 350 extant ingots includes both that in Alnwick Castle Museum and the two known to be in private possession, whilst excluding both the fake 'mark' ingot (in the Nelson collection) and that with a doubtful provenance in the Ulster Museum (see Appendix 2, nos 1 and 2).

6 Kruse's comparison (1988a, 30) of the figures for England and Wales with those from the tenth-century hoards found in southern Sweden, as published by Hårdh (1976), reveals a different pattern:

	Type 1	Type 2	Type 3	Type 4	Type 5
Southern Sweden	39%	2%	1%	58%	0%
England and Wales	85%	11%	<1%	3%	<1%

On the other hand, the extant ingots from Schleswig-Holstein, dating from the late ninth/tenth century, are exclusively of Type 1 (see now Wiechmann 1996).

7 We are grateful to Professor Birgitta Hårdh for drawing our attention to the fact that '*Gusskuchen* or "melts" are also frequent in Poland and on Bornholm' (pers. comm.).

8 Kruse (1988a, 85) notes that the two halves of an unprovenanced ingot from Skåne (LUHM 12495) weigh 7.95g and 7.49g (Hårdh 1976, I, 77).

9 Susan Kruse would like to thank Professor Clive Orton (Institute of Archaeology, UCL), Professor D.G. Kendall (Cambridge University), and Peter Milligan (King's College London) for their help with statistical matters; Kruse 1988b provides a published summary of her metrological investigations.

10 In addition to the ingots in the hoards from Scotby, Cumbria (Kruse 1986), and Chester (Webster 1953; fig. 1.12), Kruse included those from the following four finds: Croydon, Surrey (Brooks and Graham-Campbell 2000; fig. 1.6); Bowes Moor, Co. Durham (Edwards 1985); Bangor, Wales (Boon 1986, 92–7, fig. 38; fig. 1.17); and the Vatican, Rome (Blunt 1986, 160–1).

11 The standard deviation accounts for wear, corrosion, and tolerated or measured imprecision in the casting process.

12 However, Kruse notes (1988a, 36) that on **1:201**, 'the cross appears on the blunt cut end, where it was extremely unlikely to have been placed with an aim towards later subdivision'.

13 The most heavily nicked pieces of hack-silver from the Viking-age hoards of Scotland are two ingot fragments in the Skaill, Orkney, hoard (deposited *c*. 960–80), with thirty-four and twenty-nine nicks (Graham-Campbell 1995, 47).

14 Kilger (2006, 464) has made the interesting suggestion that pecking/nicking might have developed 'social significance', being 'understood as signing a contract, irrespective of the silver content', in an exchange situation between two trading partners.

15 Other small pieces of hack-silver may also display multiple nicking, such as a short fragment of twisted rod in the Cuerdale hoard (**1:744**), with twenty-eight nicks (**Fig. 4.5**).

16 Kilger (2008, 308, fig. 8.19) describes and illustrates the stages of manufacture of spheroid iron weights with a copper-alloy shell, involving the use of a textile 'pouch' in the mould.

17 We are most grateful to both Hero Granger-Taylor and Nigel Meeks for having undertaken this study on our behalf (pers. comm., 27 March 1990).

18 Susan Kruse would like to thank Dr Jim Tate (National Museums of Scotland) for supporting the project of XRF-analysis undertaken in Edinburgh, and for supervising her as technician in this work, as also Fiona Macalister who undertook some XRF-analyses for her in the Ashmolean Museum.

19 Janet Lang (23 July 1991): File 5935, BMRL nos 34929–43.

20 It is a matter of considerable regret that the 100+ samples taken by Dr Hugh McKerrell, but seemingly never analysed, can no longer be located.

21 In these publications, this ingot (W3) is unprovenanced, but registers in the National Museum of Ireland, examined by Michael Ryan and Raghnall Ó Floinn, have revealed its Newry provenance; further research by John Sheehan (pers. comm.) has suggested that it was probably part of a hoard which consisted of at least three ingots, including W1 and W4 (Sheehan 1998a, 199).

22 The whereabouts of this illegal find are currently unknown; the 'Carrick/Dysart-type' ingots are considered to be of tenth-century, native Irish, manufacture (Ryan *et al*. 1984, 335–7 and 361–2, pls 1–4; Graham-Campbell and Sheehan 2009, 83).

23 Information on the Irish material kindly communicated by John Sheehan in advance of his own publication.

24 NMI reg. no. 1981:297.2 (Ryan *et al*. 1984, 'Type E', 335, 365, pl. 6).
25 'There is an incomplete ingot from Knock, Co. Mayo (Reg. No. 1928:869) said to have been found with two other silver ingots and one of gold (NMI files).'
26 The first of the ingots to have been metal-detected from a field at Hindringham, Norfolk, was reported in Blackburn and Rogerson 1993, with the second and third being reported in *Treasure Annual Report 2002* (no. 37) and *Report 2003* (no. 84); the fourth is undergoing the Treasure process (information from Tim Pestell).
27 James Graham-Campbell is most grateful to both Mary Cahill (National Museum of Ireland) and Stuart Needham (British Museum) for discussing the dating of this ingot with him.
28 Including the base gold ingot fragment from Wales, mentioned above (p. 19, note 33).
29 In Chapter 3, Marion Archibald draws attention (p. 54) to an Islamic coin from Cuerdale (**Fig. 3.2,24**) described as having been 'partly melted in a crucible hence its deformed shape' (Lowick 1976, 28, no. 29), but this she considers to be the result of a 'method of testing a sample of coins'.
30 Information from John Sheehan in advance of his publication of this coinless hoard (meanwhile, see Graham-Campbell and Sheehan 2009, 85, fig. 6).
31 Information kindly provided by John Sheehan.
32 Cf. the treatment of some Hiberno-Scandinavian broad-band arm-rings (pp. 141 and 150, note 1).

CHAPTER 5

Classification and Discussion of the Objects Part 2: Rings

James Graham-Campbell, with contributions by John Sheehan

Introduction

This chapter is concerned with the classification and discussion of the rings in the Cuerdale hoard, and their fragments, together with all the other such finds included in this catalogue. In respect of Cuerdale, this material is – after the ingots – by far the most important in terms of both quantity and weight of silver. On the other hand, in terms of single-finds, rings – and most notably finger-rings – are of much wider and more common occurrence than ingots.

For the most part the rings under consideration were made for personal use, being designed for wear around the neck, arm or finger (there being no evidence for the wearing of ear-rings in Britain and Ireland at this period), primarily of course for display purposes, although being readily available for division into hack-silver (or gold), as and when required. Indeed, some are so plain – or simply decorated – that their ultimate use as bullion would appear to have been intended from the beginning. The section concerning the different types of arm-ring (A–F) includes a full discussion by John Sheehan of the Hiberno-Scandinavian broad-band type, which is such a prominent feature of the Cuerdale hoard. Sheehan's contribution includes consideration of the possibility that these arm-rings were weight-adjusted, as is likewise discussed below in connection with the so-called 'ring-money' type.

There is, however, one type of ring unsuited for ornamental purposes that is present in the Cuerdale hoard (its only certain occurrence in an English context). This is the so-called 'bullion-ring' of Hiberno-Scandinavian manufacture, described and discussed first, by John Sheehan.

The remaining ring type for brief consideration here is the imported 'spiral-ring', which is likewise present only in the Cuerdale hoard amongst the material in this catalogue – and then only in the form of hack-silver fragments.

'Bullion-rings'

John Sheehan[1]

A group of plain silver rings, the majority of which are from Ireland, has been known both as 'penannular ingots' (Sheehan 1984, 94–100; 1998b, 155–6) and as 'Irish ring-money' (Graham-Campbell and Briggs 1986; Graham-Campbell 1995, 30, fig. 16), but neither of these terms can be considered appropriate. 'Penannular ingot' suggests a relationship between these rings and standard ingots, whereas 'Irish ring-money' suggests both a cultural attribution (which may, in any case, be incorrect) and use as a form of currency (which cannot be demonstrated). The new term 'bullion-ring' is more neutral, implying no more than that these rings – like ingots – served primarily as a convenient way of storing bullion.

A 'bullion-ring' may be defined as a small penannular ring made from a thick band of silver of approximately rectangular cross-section, often with a concave outer face; examples are invariably unornamented (**Fig. 5.1**). The majority of examples vary from 0.4–0.6cm in thickness and taper in width towards the terminals, which may end convexly or angularly and frequently overlap for a short distance. They are too small to have functioned as arm-rings and are generally too large and cumbersome for use as finger-rings.

Over twenty-six 'bullion-rings' are represented amongst Ireland's Viking-age silver finds. They occur in at least five hoards: Castlelohort Demesne, Co. Cork (Graham-Campbell and Briggs 1986); Derrynahinch, Co. Kilkenny (Graham-Campbell 1976b, 50, 67, 68, note 3); Cushalogurt, Co. Mayo (Hall 1973); Carraig Aille II, Lough Gur, Co. Limerick (Ó Riordáin 1949, 62–4, fig. 7; Sheehan 1998b, fig. 15.2); and an unprovenanced find known as 'Ireland no. 2' (cf. Graham-Campbell 1995, 30, fig. 16). One further hoard, from Co. Kilkenny (now lost), may also have been composed of such rings (Windele 1851, 332).[2] These hoards contain at least twenty-two 'bullion-rings', although this is a minimum estimate given the incomplete nature of the records. In addition, there are four apparent single-finds, all unprovenanced nineteenth-century discoveries: NMI reg. nos W21, W22 and W23 (Armstrong 1915, 291; Bøe 1940, 109); and Alnwick Castle Museum reg. no. 1880:534 (Bruce 1880, 94).

In Britain, 'bullion-rings' are known for certain only from the Cuerdale hoard, although Graham-Campbell has suggested (1995, 30, no. 20) that the three linked rings which constituted a lost hoard from the Isle of Skye (*ibid*., no. 3) may reasonably be identified as 'bullion-rings', on the basis of their description in the nineteenth-century account of their discovery. The Cuerdale hoard contains an estimated nineteen complete and hack-silver fragments (**1:664–82; Fig. 5.16**), making it the largest known collection of 'bullion-rings', but such is not surprising given both the size of this hoard and the demonstrably Hiberno-Scandinavian origin of much of its culturally diagnostic bullion. The presence of these 'bullion-

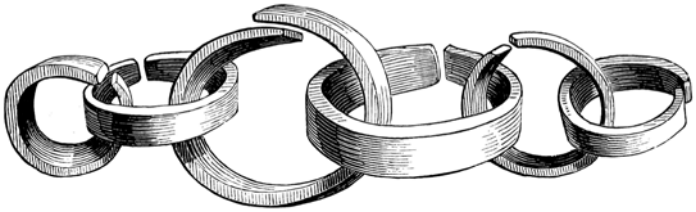


Figure 5.1 Silver 'bullion-rings' from Ireland (after Armstrong)

rings' in Cuerdale, deposited *c.* 905–10, is of special significance in that this represents their only coin-dated context. However, a small (complete) example of what may be considered, at least, to be prototype 'ring-money' forms part of the large assemblage of hack-silver from Torksey, Lincs, where the 'Great Army' wintered in 872/3 (Blackburn 2009, 48, fig. 3; 2011, fig. 4).[3]

Indeed, in only three other hoards are 'bullion-rings' even known to have been associated with other material, and one of them (Derrynahinch) is lost. The other two coinless hoards from Ireland are Cushalogurt and Carraig Aille II, in which the 'bullion-rings' are associated with Hiberno-Scandinavian broad-band arm-rings or fragments, as well as a limited range of other object types. As will be shown below (pp. 94–100), these broad-band arm-rings represent the most important product of Ireland's Hiberno-Scandinavian silver-working tradition and are broadly dateable to the period *c.* 850–950. On this limited basis (combined with the Cuerdale dating), it may be proposed that 'bullion-rings' were in circulation, as part of the Hiberno-Scandinavian pool of silver, during the later ninth and early tenth centuries.[4]

On the other hand, the distribution pattern of 'bullion-rings' is unusual, it being noteworthy that no examples are represented amongst the many silver hoards on record from the midlands, north Leinster and Ulster. Their marked southerly distribution in the early medieval province-kingdom of Munster appears to be significant and suggests that the type originated away from the Dublin core of the Hiberno-Scandinavian silver-working tradition, presumably in one of Munster's Hiberno-Scandinavian settlements of Limerick, Cork or Waterford.

Given that 'bullion-rings' presumably functioned primarily as a convenient way of storing bullion, it would be pertinent to investigate the possibility that they were manufactured to a specific weight standard. However, too few rings exist to permit any sort of statistically meaningful analysis, although the majority of extant examples lie within the 20–30g range, as is the case with many other types of non-numismatic silver of the Viking Age.

Spiral-rings

Spiral-rings are represented in this catalogue in the form of thirty-eight rod fragments from the Cuerdale hoard (**1:374–412**), two of which have terminal knobs (**1:374–5**) and six of which appear to be only part made (**1:407–12**). Otherwise, in England, spiral-ring fragments are also present in the hoard from Croydon, Surrey (**Fig. 1.6**, nos 5–6 and 8), deposited *c.* 872 (Brooks and Graham-Campbell 2000, 74–5, fig. 16), and amongst the hack-silver from Torksey, Lincs, where the 'Great Army' wintered in 872/3 (Blackburn 2011, 259, pl. 4,4; Graham-Campbell 2002a, 56);[5] in addition, there is a fragment in the recent (2007) hoard from the Vale of York (**Fig. 1.8**), deposited *c.* 927–8 (Ager and Williams 2009, 113, no. 217,17; 2011, 147–8, no. 17; Williams and Ager 2010, 24–5, fig. 19; Ager 2011, 141–2, fig. 19). In Scotland, there is a single example in the Storr Rock hoard, Isle of Skye, deposited *c.* 935–40 (Graham-Campbell 1995, 144, no. 30:1, pl. 67), and a fragment is reported amongst the hack-silver excavated at Llanbedrgoch, on Anglesey (Redknap 2006, 28). These hack-silver imports of eastern European or southern Scandinavian origin have recently been discussed in an Irish context by John Sheehan (1998a, 185–6).

The evidence for the manufacture and import of neck-rings into Scandinavia from the region of Perm, during the early part of the Viking Age, with their conversion there into spiral-rings, together with the imitative spiral-rings produced in southern Scandinavia, has recently been reviewed by Birgitta Hårdh (1999; 2007; 2008, 108–13; cf. Stenberger 1958, 123–34; Wiechmann 1996, list 11, map 60). Although small fragments of rod are readily identifiable in general terms, from their typical spiral-striated (or 'corded') appearance (e.g. **1:376–405**), it is the form of the terminals that is most readily identifiable as to origin. The Cuerdale hoard contains two polyhedral terminal knobs (**1:374–5**) of the type most characteristic of the imported rings of Permian origin, although also present on some of the, generally lighter, Scandinavian copies (cf. **Fig. 5.2**). One of these fragments (**1:374**; **Fig. 5.3**, no. 66) is large, if incomplete, with ring-stamped ornament on its upper faces; it is similar to one in the hoard from Alvara, Öland, Sweden (Stenberger 1958, pl. 20,2). The other terminal knob (**1:375**; **Fig. 5.3**, no. 61) is complete, if smaller and plain (cf. Hårdh 1999, fig. 3; 2007, 140, fig. 8.1). A further fine terminal fragment is known from Ireland (Bøe 1940, 113, fig. 75; Sheehan 1998a, 185, fig. 6.7).[6]

XRF-analysis of the large terminal knob from Cuerdale (**1:374**) is of interest in that it revealed the high silver (97%) and low gold (0.1%) content that is characteristic of Arabic coins –

Figure 5.2 Two silver spiral-rings from Denmark (National Museum, Copenhagen: reg. nos C257 and C5331)

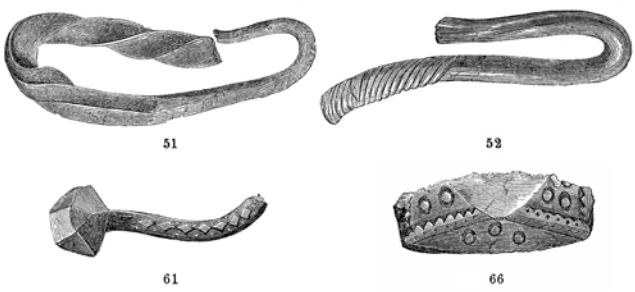


Figure 5.3 A part-made striated silver rod (Hawkins 1847, no. 51), a striated rod fragment (no. 52), and two 'spiral-ring' terminals (nos 61 and 66), from the Cuerdale hoard

and thus evidence of its importation (Kruse and Tate 1992, 323). A striated rod fragment (**1:377**) was also analysed and proved to be 'a soft, almost pure, silver object' (Ag: 99%), as reported by Janet Lang (BM Research Laboratory: File 5935).

On the other hand, the stamped ornament on one of the Cuerdale rod fragments (**1:406**) is suggestive of south Scandinavian manufacture (cf. Brooks and Graham-Campbell 2000, 76–7; Hårdh 1999, fig. 4; 2007, 141, fig. 8.6; 2008, 108–13, figs 5.10–12), as is the presence in the hoard of six pieces of seemingly part-made, spiral-striated, rod fragments (**1:407–12**; **Fig. 5.3**, no. 51).

Neck-rings

Of the four complete (or near complete) neck-rings in this catalogue, that from the Halton Moor, Lancs, hoard (**4:2**; **Fig. 5.4**) is an especially fine example and, in the words of Birgitta Hårdh, in her detailed study of Scandinavian Viking-age silver neck-rings, it 'could just as well have been found in Norway' (1996, 47). Together with the complete neck-ring in three pieces from the Ballacamaish, Isle of Man, hoard (**12:1–3**; *ibid*., 67),[7] these are fully representative examples of Hårdh's Type 3 neck-rings, with triangular end-plates (*ibid*., 45, fig. 4) , closed with two hooks, as her Type (a), with the addition of stamped ornament (cf. **Fig. 5.4**; and the Norwegian pair from the Vulu, Malvik, Sør-Trøndelag, hoard: *ibid*., 47, fig. 7). These are characteristic of Hårdh's neck-ring Region 3, 'Western Norway' (*ibid*., figs 3 and 19), of which she observed (*ibid*., 81):

> The Western Norwegian area, with its large and well made rings, represents a clearly defined region with common formal craft traditions, which may be traced up to the northernmost parts of Norway. Moreover, a connection between Western Norway and the British Isles is quite clear through the rings.

The neck-ring from the Halton Moor hoard (*c.* 1025) is exceptional in being a complete example from the end of the chronological range of Hårdh's Type 3 neck-rings (1996, 69), given that:

> Complete type 3 rings from Norway occur in hoards from the middle to the latter part of the 10th century, whereas there are several fragments in hoards from the 11th century.

This raises the question as to whether the Halton Moor ring might 'indicate a manufacture of the type long after the time to which the main part of the rings belongs', but then, as Hårdh also points out (*ibid*., 68), this ring is 'very similar' to a fine example in the hoard from Skaill, Orkney (Graham-Campbell 1995, no. 24:20, pl. 33), which was deposited *c.* 960–80. Just as

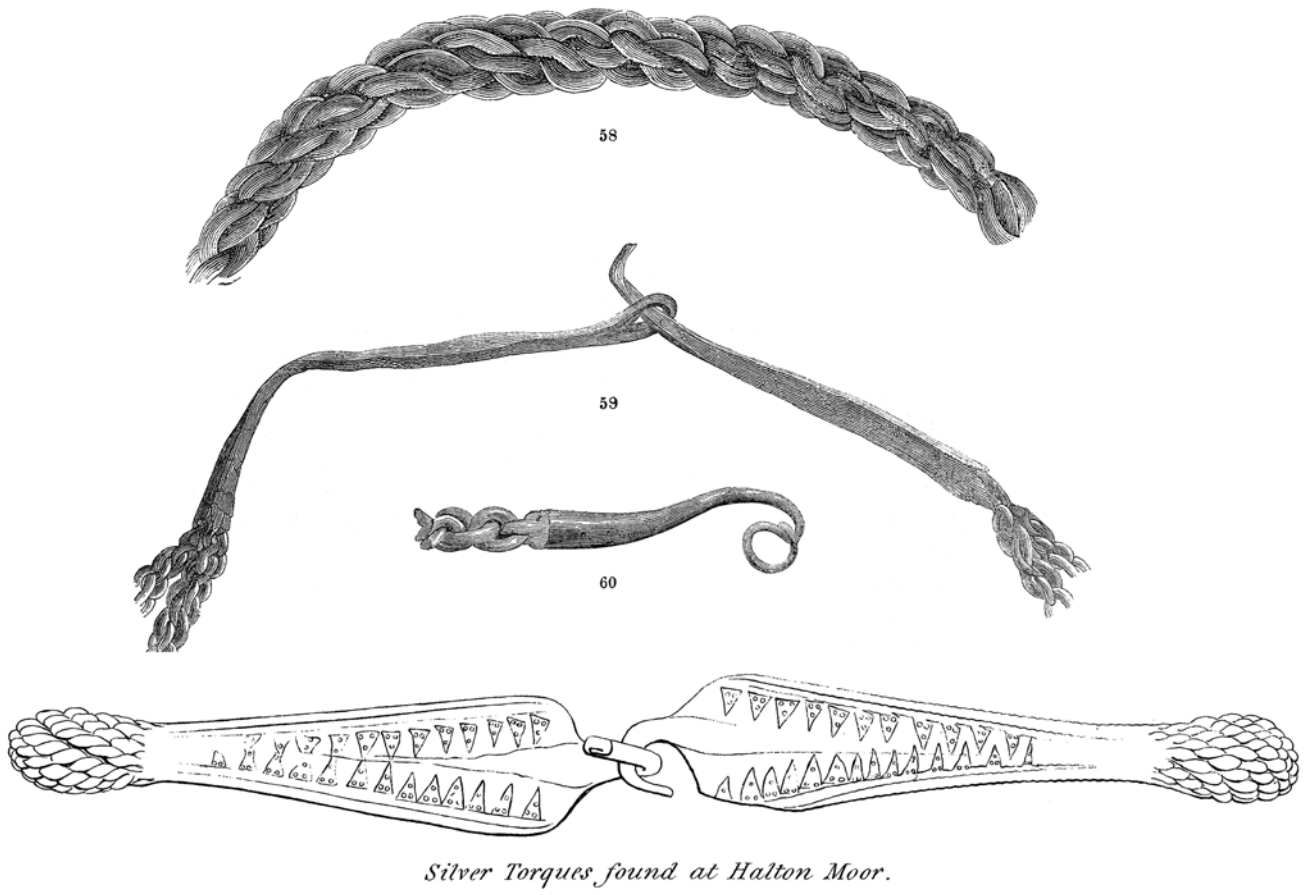


Figure 5.4 Three silver neck-ring fragments (nos 58–60), from the Cuerdale hoard, with (below) the terminals of the neck-ring (**4:2**) from the Halton Moor hoard, Lancs (James Basire: after *Archaeologia*, 1815)

the Halton Moor cup (**4:1**) is itself an heirloom, so perhaps the associated neck-ring is to be considered likewise, if not quite so ancient. At any rate, it has assorted nicks and pecks (perhaps as many as twenty-six) and has suffered some damage.

The construction of these neck-rings from northern England and the Isle of Man is standard in that they are made by twisting together pairs of rods which themselves have previously been twisted together (cf. **Fig. 5.4**, no. 58), with or without the addition of twisted wires (Hårdh 1996, 55–6, fig. 14). The hoard containing both the greatest number and variety of neck-rings from Britain and Ireland is that from Skaill, Orkney, with thirteen plaited and twisted examples, three of which are illustrated above (**Fig. 1.3**), together with some fragments, including an unfinished terminal-hook (Graham-Campbell 1995, no. 24:10–21, 104, 107, 114, pls 25–36, and 100, pl. 48,i).

On the other hand, the construction of the neck-ring fragment in the Ballaquayle, Isle of Man, hoard (**13:2**), is atypical, although it can also be paralleled in the western Norwegian area (Region 3), by a ring from Rogaland and another from Hordaland (Hårdh 1996, 55, 195). All three of these neck-rings are made from four rods, twisted into two pairs running parallel; the Ballaquayle neck-ring has the addition of twisted wires, as does the Hordaland example. The Rogaland ring has parallel-sided end-plates and hooks (Type 4), in the same manner as the Ballaquayle fragment, whereas that from Hordaland has triangular plates, with the familiar triangular stamping, and hooks (Type 3).

Although related in design to these rings, the most complete neck-ring in the Cuerdale hoard (now in two pieces) is even more exceptional in that its two parts, originally laid one within the other, were both made from three pairs of twisted rods (**1:683**; **Fig. 5.4**, nos 58–9). Twelve-rod neck-rings are a rarity even in Scandinavia, although 'exceptionally even more rods' were used in their manufacture (Hårdh 1996, 55). Its terminals belong to Hårdh's Type 6, to be discussed below.

As part of her detailed study of Scandinavian neck-rings, Hårdh considered the weights of the complete examples and concluded that 'there were large variations in the quantity of silver invested in individual pieces of jewellery, and these vary geographically', with the heaviest rings being those from western Norway (1996, 64, fig. 16):

> …from [Rogaland] some very heavy rings are known. In Sør Trøndelag there is a marked concentration of large and heavy rings. By far the heaviest rings from the whole area under investigation are to be found there. Two rings weigh more than 550 grams, and 18 rings weigh over 200 grams.

It is of interest to note therefore that the Halton Moor neck-ring (**4:2**) is at the lighter end of this exceptional series, weighing 192.4g, although 'around the supposed mark weight, ca. 200 grams, there is a broad but diffuse assemblage of rings' (*ibid*., 59). The Ballaquayle neck-ring fragment (**13:2**) weighs 95.8g and so, given that it has been cut approximately in half, it will originally likewise have weighed *c.* 200g, with the two near complete Cuerdale rings weighing less: *c.* 173g (**1:683**) and *c.* 188g (**1:685**).

On the other hand, the Skaill ring, to which Hårdh has drawn attention as a parallel for Halton Moor, weighs 247.3g (Graham-Campbell 1995, 114, no. 24:20, pl. 33). The Ballacamaish ring (**12:1–3**) is light by comparison, its three pieces together weighing only 102.8g – or about half a mark.

The neck-rings and their identifiable terminal fragments in the Cuerdale hoard, with three exceptions, have plain rod terminals of Hårdh's Type 6 (1966, 45, fig. 4), which match an open hook with a closed loop (e.g. **Fig. 5.4**, no. 59), as Hårdh's Type (d) (*ibid*., 51, fig. 10). Such is the case with the double neck-ring from Cuerdale (**1:683**), as also with (**1:684**), formed from three pairs of twisted rods twisted together, which has only a small part of its 'loop' terminal missing. One Type 6 terminal fragment (**1:688**) is of 8-rod construction, whereas two others consist of six rods each, in the form of three twisted pairs twisted together (**1:686** and **690**).

It is of interest to note, in relation to these Cuerdale rings, that the complete neck-ring in the Orton Scar hoard (**Fig. 1.9**) has also the plain rod terminals of Hårdh's Type 6, but closed with two hooks, as Type (a). In this case, however, the ring itself is of simpler construction, being formed from twisted – rather than plaited – rods.

Hårdh's neck-rings with Type 6 terminals represent 'one of the most common types with almost seventy known items, complete or fragmentary,' known from Denmark, Norway and Sweden (Hårdh 1996, 50). It is, however worth noting that: 'In Denmark it seems to have an obvious focus in the western parts, especially on Jutland'; and that: 'In Norway, with the exception of a ring from Sør Trøndelag, it is confined to the southern parts of the country' (*ibid*.).

The only other exceptions to this predominance of neck-rings with Type 6 terminals in the Cuerdale hoard (apart from the Type 3 terminal fragment, already discussed) are two stamp-decorated terminal fragments, of rectangular section. The more complete (**1:685**) has been cut from a somewhat crudely manufactured (6-rod) ring, with an expanded and rounded end that has an oval perforation, related to Type (c). It has the appearance of having been copied from a neck-ring similar to two of those in the Skaill hoard (Graham-Campbell 1995, no. 24:13 and 21, pls 28 and 34). The remaining two terminal fragments (**1:687** and **691**) are cut off at both ends, but appear to belong to Type 5 (with parallel sides) and are likewise paralleled in the Skaill hoard (*ibid*., no. 24:18, pl. 32; cf. Hårdh 1996, 49, fig. 8, from Skåne). Hårdh's neck-rings with Type 5 terminals display 'a distinct Western Scandinavian focus' (*ibid*., 48).

There is nothing useful to be added about the hoop fragment of a neck-ring that makes up a further part of the Ballacamaish hoard (**12:4**), other than to note that its 8-rod construction (four pairs of twisted rods) is the same as the complete example in three pieces (**12:1–3**), as also of a Cuerdale fragment (**1:688**). The remaining five (probable) neck-ring fragments from the Cuerdale hoard, on grounds of size and/or curvature, consist of one formed from three pairs of twisted rods (**1:689**), three that are just pairs of twisted rods (**1:692–4**), although **1:694** appears to derive from a 4-rod ring, and one of four twisted rods (**1:695**).[8] This last is a method of construction otherwise unknown amongst the neck-ring material from Britain, although 'ring bodies consisting of three or more rods twisted together (not two-by-two) are abundant in Norway and Western Sweden' (Hårdh 1996, 56).

This completes the neck-ring category, although there is a substantial fragment in the Vale of York hoard, together with a separate hooked terminal (Ager and Williams 2009, 113, no.

217,13–14; 2011, 147, nos 13–14; Williams and Ager 2010, fig. 14; Ager 2011, 141, fig. 18a), because there are no single-finds of such silver rings in this catalogue (there being none, in fact, on record from England), although examples are known from both Scotland (Graham-Campbell 1995, 153–4, S2, pl. 73,a) and Ireland (Bøe 1940, 122, figs 83–4; Sheehan 1982; 2010c). Likewise, there is no gold neck-ring catalogued here, with the only example on record from Britain and Ireland being the lost annular ring from Braidwood Fort, Midlothian, in Scotland (Graham-Campbell 1995, 153–4, S2, pl. 73,a).

Arm-rings, with a contribution by John Sheehan

The contents of the Cuerdale hoard include twenty-nine complete arm-rings, with three more cut into two (including one that is unfinished), but there are also numerous fragments which together can be divided into six main groups: (A-C) band-shaped (both decorated and plain); (D) of twisted and plaited rods; (E) of single rods (with three different cross-sections); and (F) of coiled rod (with an oval/D-shaped section). Decorated band-shaped arm-rings of Group (A) have been divided into four sub-groups (i–iv), as described below, on the basis of their ornament. It is, consequently, of some interest to tabulate the complete arm-rings of the different types in the Cuerdale hoard (as catalogued here), compared with the presence/absence of hack-silver fragments (**Table 5.1**).

Table 5.1 Complete and fragmentary silver arm-rings in the Cuerdale hoard

	Complete	Hack-silver
(A) Band arm-rings: sub-group (i)	0	4
(A) Band arm-rings: sub-group (ii)	0	10
(A) Band arm-rings: sub-group (iii)	1	15
(A) Band arm-rings: sub-group (iv)	0	1
(B) Band (Hib-Scand) arm-rings	7 (+2)	117
(C) Band (plain) arm-rings	4	82
(D) Plaited-rod arm-rings	1	0
(D) Twisted-rod arm-rings	1	24+
(E) Single-rod arm-rings (circular section)	6	16+
(E) Single-rod arm-rings (lozenge section)	8 (+1)	59
(E) Single-rod arm-rings (polygonal section)	[1]	25
(F) Coiled-rod arm-rings	0	5
Total:	**29 (+3)**	**368+**

Key
Figures in round brackets refer to complete rings in two pieces and that in square brackets to the complete arm-ring converted into a buckle. Only the double-rod fragments of twisted-rod arm-rings (D) have been counted and only the terminal fragments of the single-rod arm-ring, of circular section (E), so that these two figures only represent their minimum totals.

The other finds classified here comprise twenty-six complete arm-rings, of both silver and gold; in addition, there are thirteen hack-silver fragments in three mixed hoards (**3**, **9** and **13**). The largest number of complete arm-rings in any of the other hoards under consideration is ten, in that from Ballaquayle, Isle of Man (**13**), whereas there are nine from four other hoards (**8**, **11**, **12** and **16**). The remaining seven rings are all single-finds (**18–24**).

The curious gold, ring-shaped, 'assemblage' from Shotton Hall, Durham (**6**), comprises parts of two different types of arm-ring, but defies exact classification. The only arm-rings not to have been classified at all are, inevitably, the three lost silver '*armillae*, resembling oriental bangles' which formed part of the Inch Kenneth, Argyll, hoard (**14:2–4**).

Band arm-rings

The band arm-rings and fragments in the Cuerdale hoard (**1:413–663, 1,125–32** and **1,136**) have been catalogued here in a manner that inevitably differs in part, at any rate, from what will become the definitive classification of Hiberno-Scandinavian ring types, to which much of the material belongs, when finalised by John Sheehan (forthcoming). The Cuerdale arm-rings and fragments formed from single bands of silver, whether broad or narrow, thick or thin, are divided here into three Groups according to the manner of their decoration (A) and (B), or whether left plain (C); as already mentioned, Group (A) is sub-divided into four sub-groups (i-iv), according to decoration, as follows.

(A) Band arm-ring and fragments, with Scandinavian and related ornament (1:413–42; see also 22)

(i) Cast and sheet band arm-ring fragments, with sub-group (i) ornament (**1:413–16**)

(ii) Cast and sheet band arm-ring fragments, with sub-group (ii) ornament (**1:417–25**)

(iii) Narrow-band annular arm-rings and fragments, with sub-group (iii) ornament (**1:426–41**)

(iv) Band arm-ring fragment, with sub-group (iv) ornament: 'Hiberno-Scandinavian prototype' (**1:442**; see also **22**).

There are four fragments in the Cuerdale hoard with sub-group (i) ornament, two of which are cast (**1:413–14**), with the first being certainly of Scandinavian manufacture. The other two are made of sheet silver (**1:415–16**) and are more probably of Hiberno- (or Anglo-) Scandinavian workmanship, together with some related finger-rings to be mentioned below (p. 106). Sub-group (i) ornament is created by combining C-shaped stamps to form undulating transverse grooves. The most massive of these four fragments (**1:413**) has the characteristic plano-convex section of this common penannular arm-ring type in Viking-age Scandinavia, which tapers towards the terminals; this is known in several varieties from the Late Vendel Period onwards, when they had expanded terminals (Rygh 1885, no. 721; Petersen 1928, 153, fig. 184; Stenberger 1947, pls 77, 142,5–8 and 236,2–9; 1958, 109f., fig. 85; cf. Graham-Campbell 1980, nos 227–8 and 237). The Cuerdale fragment could, for example, have formed part of such an arm-ring as that from Halland, in southern Sweden, illustrated by Hårdh (1976, 26, no. 17, pl. 15,iv).

This imported arm-ring type is not present in any other hoard from Britain, but there is one fragment in Dysart Island (no. 4), Co. Westmeath, which was deposited *c.* 910 (Ryan *et al.* 1984, 341, 344, no. 95, pl. 9,25; Sheehan 1998a, 170, fig. 6,2), which is the Irish hoard that most closely parallels Cuerdale, if on a much smaller scale. It is also of interest to note the presence of a complete example in the coinless silver hoard from Bøstrand, Ofoten, Nordland (in northern Norway), because it also includes Hiberno-Scandinavian broad-band arm-rings (Grieg 1929, 258–60, no. 113, fig. 63; Sjövold 1974, 84, L 346, pl. 11).

Arm-rings with sub-group (ii) ornament are represented in the Cuerdale hoard by nine fragments (**1:417–25**), likewise comprising both Scandinavian imports and Hiberno-Scandinavian variants (the so-called 'ribbon-bracelet'). Sub-group (ii) ornament completely covers the outer face of the

Figure 5.5 Silver penannular broad-band arm-ring, with sub-group (ii) ornament, from the Hørdum hoard, Jutland

band with two horizontal rows of cast or stamped decoration, with a zig-zag appearance, on either side of a median line (plain or decorated), as exemplified by an example in the hoard from Hørdum, Jutland (**Fig. 5.5**).

The Cuerdale cast fragment (**1:417**; **Fig. 5.6**, no. 47) is to be regarded as a Scandinavian import (cf. a copper-alloy example from Vestfold, Norway: Petersen 1928, fig. 188), with its ornament anticipating that of Stenberger's 'Typ Ab 4' (1958, 114–15, fig. 15), although it has earlier Scandinavian antecedents, including another copper-alloy example, from Rogaland, found with a Berdal-type oval brooch (Petersen 1928, 154, fig. 187). No other example is known from mainland Britain, except for the miniaturised version represented by the gold finger-ring from Tundergarth, in Scotland (**36**). A cut fragment from a cast silver arm-ring of this same type has, however, recently been metal-detected (2007) from the parish of Bride, in the Isle of Man.

As pointed out below (p. 105), the Tundergarth ring is a scaled-down version of the annular version of this type of gold arm-ring, as represented in the hoard from Hare Island, Co. Westmeath (**Fig. 1.4**; Graham-Campbell 1974). In turn, the 'ribbon-bracelet' is a variant of this type of cast arm-ring, being simply executed in sheet silver, with stamped decoration. It is exemplified by that from the Bossall/Flaxton, Yorks, hoard (**Fig. 1.7**), which was deposited *c.* 927 (Dolley 1955; Stenberger 1958, 115, pl. 31; Graham-Campbell 1993a, 81–3). Sheehan has argued that the 'ribbon-bracelet' is to be regarded as of Hiberno-Scandinavian manufacture (1990a, 49; 1998a, 180–1), citing – for example – the pair from the Shannon at Athlone, Co. Westmeath (Bruce 1880, 94, pl. 23,4), and a 'Liffeyside' hoard (Briggs and Sheehan 1987; cf. Graham-Campbell and Sheehan 2009, 78–9, fig. 2), as also two adjoining fragments in Dysart Island (no. 4), Co. Westmeath, deposited *c.* 910 (Ryan *et al.* 1984, 340, nos 88–9, pl. 9,22).

The largest fragments in the Cuerdale hoard are **1:418–19** (**Fig. 5.6**, nos 45 and 32, respectively) and **1:425** (**Fig. 5.7**), the latter having been discussed by Sheehan, who first noted in print its animal-head terminal (1990a, 49, fig. 3,b). These are, however, considerably removed in their design from the Scandinavian prototype, which is more closely copied on various other (if smaller) fragments in the hoard, including some of those first illustrated by Hawkins in 1847 (e.g. **Fig. 5.6**, nos 40–1 and 46; **1:421, 423** and **420**, respectively). It is of particular interest to note the fragments of such 'ribbon-bracelets' in two Norwegian silver hoards: that from Grimestad, Vestfold, which was deposited at much the same time as Bossall/Flaxton (see Sheehan, below p. 97, for further discussion of this hoard's Hiberno-Scandinavian content); and from Lahell, Lier, Buskerud, which also contains the pin-head from a substantial ball-type brooch (Grieg 1929, 233–4, no. 45, fig. 50).

The other examples of 'ribbon-bracelet' variants known from Britain comprise only small fragments in two tenth-century hoards: Storr Rock, Isle of Skye, deposited *c.* 935–40 (Graham-Campbell 1995, 28, 145, no. 30:5, pl. 67); and Chester (Castle Esplanade), deposited *c.* 965 (**Fig. 1.12**; Webster 1953, 26, 28, fig. 2, pl. ix,b, nos 5–6, where the stamped ornament is inaccurately depicted). It is, however, also now known in a miniaturised version as a gold finger-ring, from Sedbergh, Cumbria (see below, p. 107).

Narrow-band annular arm-rings with sub-group (iii) ornament are represented in the Cuerdale hoard by one complete example (**1:426**; **Fig. 5.8**, no. 22), together with nine terminal fragments (**1:427–31, 435, 437–8** and **441**; including **Fig. 5.8**, no. 16 = **1:430**, and **Fig. 5.9**, nos 34 and 38 = **1:429** and **427**), and a further six probable ring fragments (**1:432–4, 436**

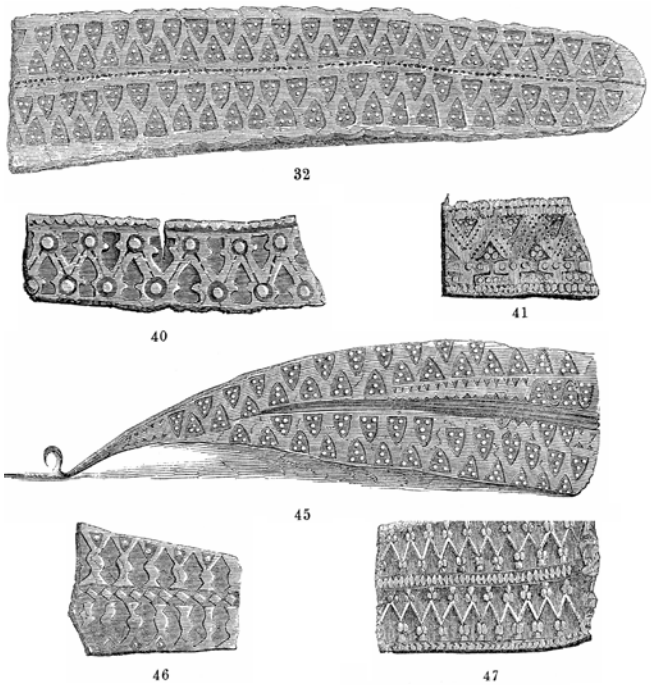


Figure 5.6 Silver 'ribbon-bracelet' fragments (nos 32, 40–1 and 45–7), from the Cuerdale hoard

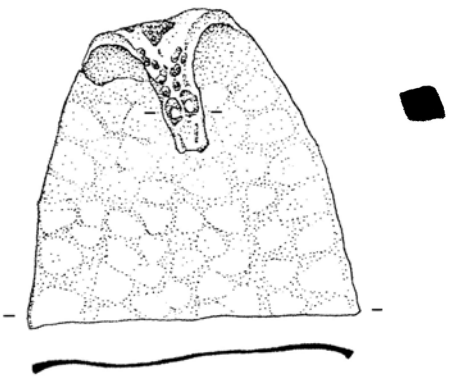


Figure 5.7 Animal-headed silver 'ribbon-bracelet' (**1:425**), from the Cuerdale hoard (after Sheehan 1990a)

Figure 5.8 Two silver narrow-band, annular, arm-rings, with stamped decoration (nos 16 and 22), and a Hiberno-Scandinavian, annular, broad-band arm-ring (no. 21), from the Cuerdale hoard

and **439–40**). Sub-group (iii) ornament characteristically consists of two (but sometimes three) horizontal rows of stamped ornament, although in the case of one example (**1:430**; **Fig. 5.8**, no. 16), there is vertical bar-stamping in the manner of the Hiberno-Scandinavian broad-band arm-rings, discussed below (B).

An example of this type of silver arm-ring, with two rows of stamped decoration, was found (in 1999) at Ardskenish, Colonsay (Graham-Campbell 2008b, 197–8, 200, illus. 5), and there is a fragment of what appears to be a related narrow-band arm-ring (cf. **Fig. 5.8**, no. 22), in the hoard from Storr Rock, Skye, which was deposited *c.* 935–40 (Graham-Campbell 1995, 28, 145, no. 30:4, pl. 67). The Vale of York hoard, deposited *c.* 927/8, is exceptional in containing one such arm-ring of gold (Ager and Williams 2009, 112, no. 217,2; 2011, 146, no. 2; Williams and Ager 2010, 23, fig. 12; Ager 2011, 137–8, fig. 9), but there is also a near-complete (if much worn) silver example in the Skaill, Orkney, hoard (**Fig. 1.3**), deposited *c.* 960–80 (Graham-Campbell 1985, 115, no. 24:24, pl. 38,c–d). A related finger-ring, with two rows of interlocking triangular stamps (containing three pellets), has been recorded from Driffield, East Yorks.[9]

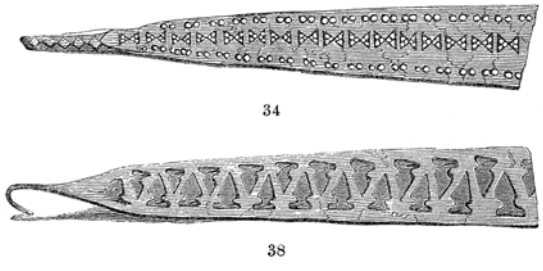


Figure 5.9 Two terminal fragments from silver narrow-band, annular, arm-rings, with stamped decoration (nos 34 and 38), from the Cuerdale hoard

Figure 5.10 Silver penannular arm-ring (Hiberno-Scandinavian prototype), from the Hørdum hoard, Jutland

The Cuerdale hoard contains a single fragment of an arm-ring with sub-group (iv) ornament (**1:442**; **Fig. 5.11**, no. 12), the 'Hiberno-Scandinavian prototype' distinguished by John Sheehan (see below, pp. 98–9). This is characterised by the use of a plain narrow (chisel-like) bar-stamp to create a combination of transverse stamping and diagonal crosses, as exemplified by an example in the hoard from Hørdum, Jutland (**Fig. 5.10**). XRF-analysis of this Cuerdale fragment demonstrated that it has the high silver (98%) and low gold (0.1%) content characteristic of Arabic coinage, and thus 'of Scandinavian imports into the British Isles' (Kruse and Tate 1992, 323).

This catalogue includes one further example of such a 'Hiberno-Scandinavian prototype' arm-ring (**22**); this was acquired in Ireland and is probably from Co. Westmeath. This complete penannular ring would, however, appear to be of Danish manufacture, given the well-executed nature of its ornament and the characteristic tapering of its terminals (cf. **Fig. 5.10**).

(B) Broad-band arm-rings and fragments, with 'Hiberno-Scandinavian' ornament (1:443–569; see also 3:9–11, 8:1–3, 9:2 and 16:1–3)

The Cuerdale hoard contains seven complete arm-rings (**1:443–9**; **Fig. 5.8**, no. 21 = **1:443**), as well as two more both in two pieces (**1:450–53**), and 116 further fragments of stamp-decorated arm-rings of the Hiberno-Scandinavian broad-band type (see **Figs 5.11–12**, for a selection). These are considered in detail, below, by John Sheehan, following section (C), on their plain variant, which has been catalogued separately here. A further six (complete) decorated arm-rings and four fragments belonging to this type are also catalogued here, from four further hoards (**3, 8–9** and **16**).

According to Sheehan's full definition (pp. 94–95), these arm-rings:

> …consist of a thick band of silver of approximately rectangular cross-section, the outer face normally being slightly concave; the majority are penannular in form and taper in width, and generally in thickness, from an expanded central area towards concave or angular terminals which are occasionally 'butted'; some, however, display terminals of circular cross-section which are wound tightly around their opposite number; decoration, when it occurs, is confined to the outer face and generally consists of transversely, longitudinally, or obliquely disposed stamped grooves, frequently formed with distinctive bar-shaped punches; in most cases a stamped diagonal cross occurs in the expanded central area, and a repeat of this motif towards each terminal is usual.

The additional examples of decorated broad-band arm-rings of the Hiberno-Scandinavian type, catalogued here, are: from England, three fragments (**3:9–11**) in the Goldsborough hoard (deposited *c.* 925); from Ireland, three complete arm-rings (**8:1–3**), including a pair (decorated with the same stamps), which are all that survive from a coinless hoard found near Athlone(?), and a fragment that forms part of the small coinless hoard from Co. Cork (**9:2**); from Scotland, there are three complete arm-rings, likewise including a pair, in an unprovenanced coinless hoard (**16:1–3**). It may be noted that the complete Cuerdale arm-rings of this type also include one pair (**1:448–9**).

(C) Plain band arm-rings and fragments (1:570–663 and 1,125-9; see also 9:3, and 23)

The Cuerdale hoard contains four complete (or nearly complete) plain band arm-rings (**1:570–3**), of both broad and narrow types, which are both annular and penannular in form (**Fig. 5.11**, no. 11 = **1:571**); however, the bulk of the material (**1:574–663** and **1,125–9**) consists of ninety-five hack-silver fragments, many of which are undiagnostic as to form.

A further example of a complete, penannular, plain broad-band arm-ring of Hiberno-Scandinavian type is represented here by that from 'the North of Ireland' (**23**). The catalogue also contains what is presumably the terminal fragment of another such ring, forming part of the small coinless hoard from Co. Cork (**9:3**).

Hiberno-Scandinavian broad-band arm-rings
John Sheehan

The most important product of Ireland's Viking-age silver-working tradition, in both numerical and other terms, is the broad-band arm-ring (Graham-Campbell 1976b, 51–3; Sheehan 1998a, 178–80; 2009). This type forms the largest and most impressive group of Viking-age silver arm-rings known from Ireland, as well as representing the most distinctive form of arm-ring from Britain and Ireland dateable to the period between *c.* 850 and *c.* 950. Just over 140 examples of Irish provenance are on record and, if the large number present in the Viking-age hoards from Britain is included, the Insular total exceeds 350 examples. The type is also represented in Scandinavian hoards, particularly those from Norway and Denmark.

The broad-band arm-ring type was first isolated by Graham-Campbell, who noted its principal characteristics as follows (1976b, 51):

> They consist of a thick band of silver, of rectangular cross-section, and are penannular in form, tapering towards the ends; decoration is confined to the outer face and consists of a series of vertical grooves, executed with a variety of stamps, and in most cases with a simple diagonal cross at the centre, sometimes repeated towards the terminals.

This preliminary definition, which was based on a general survey of the material as part of a broader study of Ireland's Viking-age silver hoards, contains a number of minor inaccuracies. For instance, not all examples are penannular in form, there being a small number with terminals that assume a circular cross-section and are tightly wrapped around one another (e.g. **Fig. 5.8**, no. 21). In addition, the decoration on these rings does not always consist of vertical grooves, as on a few examples the grooves are disposed longitudinally or obliquely, whereas some others utilise a variety of different types of stamp (e.g. **Fig. 5.12**, nos 23–5, 28, 30 and 37). Finally, there are some unornamented arm-rings that should be included in the type (e.g. **Fig. 5.11**, no. 11), as these share the other characteristics of the ornamented examples and are occasionally associated with them in hoards (cf. section (C), above). A new general definition of the broad-band arm-ring type may now be proposed:

> They consist of a thick band of silver of approximately rectangular cross-section, the outer face normally being slightly concave; the majority are penannular in form and taper in width, and generally in thickness, from an expanded central area towards concave or angular terminals which are occasionally 'butted'; some, however, display terminals of circular cross-section which are wound tightly around their opposite number; decoration, when it occurs, is confined to the outer face and generally consists of transversely, longitudinally, or obliquely disposed stamped grooves, frequently

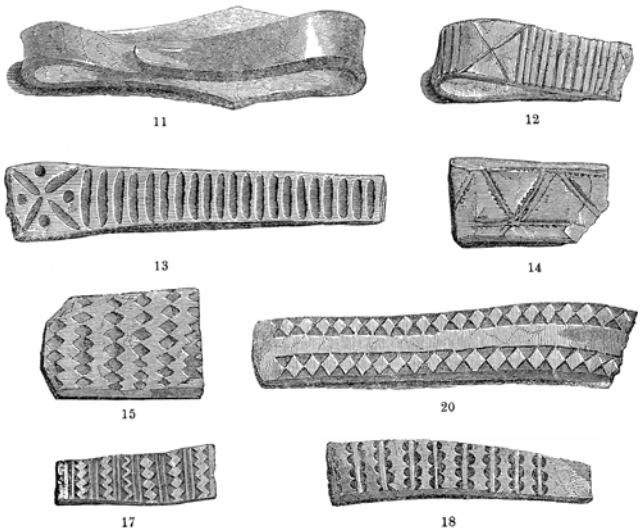


Figure 5.11 Fragments of silver Hiberno-Scandinavian broad-band arm-rings (nos 11–15, 17–18 and 20), from the Cuerdale hoard

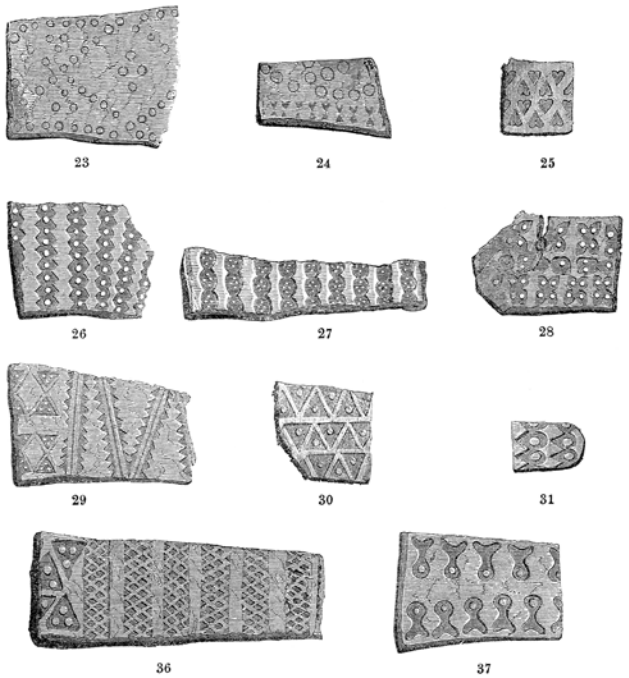


Figure 5.12 Fragments of silver Hiberno-Scandinavian broad-band arm-rings (nos 23–31 and 36–7), from the Cuerdale hoard

formed with distinctive bar-shaped punches; in most cases a stamped diagonal cross occurs in the expanded central area, and a repeat of this motif towards each terminal area is usual.

IRELAND

In all, 141 individual silver arm-rings of broad-band type, surviving either complete or as hack-silver fragments, are known from Ireland. This total is a minimum one, as it is not known how many examples formed part of some poorly recorded hoards that were discovered during the eighteenth and nineteenth centuries. In all, twenty-nine hoards that include this arm-ring type are known from Ireland, and together these contain a minimum total of eighty-eight examples. These hoards include published examples from: Cushalogurt, Co. Mayo (Hall 1973); near Raphoe, Co. Donegal (Graham-Campbell 1988b); Dysart (no. 4), Co. Westmeath (Ryan *et al*. 1984, 339–42); Carraig Aille II, Co. Limerick (Ó Ríordáin 1949, 62–4); Cloghermore, Co. Kerry (Sheehan 2005a); and Kilmacomma, Co. Waterford (Sheehan 2008a). In nine hoards the arm-rings occur complete and in fourteen as hack-silver fragments; in the remaining six, complete examples and hack-silver fragments occur together. Only three of the hoards are known to have contained coins, whereas twenty-three contained other forms of non-numismatic material in association with the broad-band arm-rings. Nine fragments occur in three assemblages that are not classified as hoards: from the River Blackwater at Shanmullagh, Co. Armagh (Bourke 1993, 24–39), and the Scandinavian *longphuirt* at Woodstown, Co. Waterford (Sheehan 2008b, 291–2; 2012), and Linn Duachaill, Annagassan, Co. Louth.

Note must also be taken of the forty-five apparently single-finds of silver broad-band arm-rings, of which nine are provenanced to at least county level. Some of these may well derive from unrecorded hoards, as most of them were discovered during the eighteenth and nineteenth centuries, with many deriving from the collections of antiquarians who placed little emphasis on keeping associated material together, or, indeed, on recording provenances.

Finally, there is a small number of broad-band arm-rings in gold on record from Ireland, mostly deriving from two hoards. Four examples, accompanied by a penannular rod arm-ring, form the Vesnoy, Co. Roscommon, hoard (Wilde 1862, 51–2; Graham-Campbell and Sheehan 2009, 80–1, fig. 4). Even though both Coles (1968, 51) and Eogan (1983, 206–7) have suggested that this find may be of prehistoric date, both types of ring in it find ready parallels amongst the corpus of Viking-age silver arm-rings from Ireland. Another hoard, that from Dromgarriff (Glengarriff Castle), Co. Cork, now lost, was composed of two broad-band rings (Cahill 2006, 260–3, pl. xxi,a–b). Two single-finds of gold broad-band arm-rings are on record: one is from Edenvale Caves, Co. Clare (Sheehan 2000a, 34–6, fig. 1,b), and the other is a fragment published as prehistoric (Cahill 1994, 69, pl. 7,3). This is provenanced to 'near Clonmel', Co. Tipperary, and features stamped decoration, including the characteristic diagonal-cross motif, unlike the other gold rings just mentioned.

BRITAIN

Ten (or possibly eleven) hoards from Britain, of which six have coin-dated depositions, are known to have contained broad-band arm-rings. In addition, there are three sites that have produced assemblages of Viking-age silver objects which include examples of this type, as well as six apparently single-finds. The total number of arm-rings derived from these sources is over 200, thus exceeding the total from Ireland. This observation should not, however, be over-interpreted, as it results from the heavy bias introduced by the large number of such arm-rings present in the Cuerdale hoard. When the number of actual find-spots of silver broad-band arm-rings (from hoards and assemblages, and as single finds) is compared between Britain and Ireland, a more meaningful picture emerges. Britain has nineteen (or possibly twenty) such find-spots, whereas Ireland has forty-one; when the gold rings are included, the number of Irish find-spots rises to forty-five.

The largest group of broad-band arm-rings from Britain is that from the Cuerdale hoard, deposited *c.* 905–10, consisting of seven complete decorated rings (**1:443–9**), with two more both in two pieces (**1:450–3**) and 117 hack-silver fragments (**1:454–569** and **1,125**), or 118 together with the 'prototype' fragment (**1:442**); in addition, there are four complete plain rings (**1:570–3**) and ninety-eight plain fragments (**1:574–663, 1,126–32** and **1,136**). Thus, the broad-band arm-ring constitutes the major culturally diagnostic element in the find (other than coins) and represents the largest collection of such rings from any recorded hoard. As demonstrated in this volume, the hoard also contains many fragments of other Hiberno-Scandinavian and Irish types of ornament, suggesting that a considerable portion of the hoard originated in Viking-age Ireland, probably in Dublin.

A hoard from north-west England that is largely composed of Hiberno-Scandinavian silver objects is that found (in 2004) at Huxley, close to the banks of the River Gowy, near Chester (see above, p. 11; **Fig. 1.11**). It consists of an ingot and twenty-one arm-rings, of which twenty are of the broad-band type; four of these are plain and one has unfinished decoration (Graham-Campbell and Philpott (eds) 2009). Each had been folded roughly in half and flattened, presumably to reduce them in size for concealment (Sheehan 2009). Given the overtly Hiberno-Scandinavian character of the hoard, its deposition may well date to the opening decade or two of the tenth century, when this area of England was first settled by Hiberno-Scandinavians.

The hoard from Dinorben, Red Wharf Bay, Anglesey, consists of five complete broad-band arm-rings (Boon 1986, 102; see also above, p. 15 and **Fig. 1.18**). Given the coastal location of its find-spot, directly across the Irish Sea from Dublin, its deposition may have been connected with the expulsion of the Scandinavians from there in 902. In particular, it has been proposed that it may relate to the arrival on Anglesey, as historically attested in both the Welsh and Irish annals, of the Viking leader Ingimundr (or his likes) who, having been expelled from Dublin, attempted to establish a base there before settling in north-west England (Graham-Campbell 1998, 108; Edmonds 2009, 6–7). Redknap has, however, suggested that it may represent an episode of Scandinavian gift-giving to a local elite (2004, 173), although such does not preclude a possible association with Ingimundr. In terms of the character of its contents, a set of complete arm-rings in good condition, the Red Wharf Bay hoard finds parallel with an unlocalised find, most probably from Scotland, of

three or four complete broad-band arm-rings (Graham-Campbell and Sheehan 1995). The second hoard containing non-numismatic material from Wales is that found within the precincts of the monastery at Bangor, Gwynedd (deposited *c.* 925), comprising only one fragment of a broad-band arm-ring (**Fig. 1.17**), together with an ingot fragment and thirteen coins (Boon 1986, 92–7, fig. 38, no. 14; Redknap 2000, 62, fig. 83). Geographically, the hoard is located half-way between York and Dublin, and this, coupled with its deposition date and the nature of its non-numismatic contents, indicates that it may be connected to the reign of the Hiberno-Scandinavian dynasty in York.

Another hoard from northern England that displays strong Hiberno-Scandinavian traits, though much smaller than those from Cuerdale and Huxley, is that from Goldsborough, Yorks (**3**). This contained fourteen pieces of bullion including three hack-silver fragments of broad-band arm-rings (**3:9–11**), and five fragments of Irish-type brooches, among its fourteen pieces of bullion (deposited *c.* 925; see Williams below, p. 237). The non-numismatic contents of the hoard, being largely Hiberno-Scandinavian in character, suggest that it was assembled in Ireland.

A hack-silver fragment of a broad-band arm-ring formed part of the now lost hoard from Gordon, Berwickshire, in south-east Scotland, which Graham-Campbell has compared with the Goldsborough find (1995, 27–8, no. 14). It also contained a gold finger-ring, ingots and an ornamented pin fragment from an Irish brooch. The hoard displays strong Hiberno-Scandinavian characteristics and was probably deposited during the late ninth or the first half of the tenth century.

Two small hoards containing broad-band arm-rings have recently come to light in north-western England. The hoard from Warton, Carnforth, Lancs, consists of a plain fragment of one such ring, an ingot fragment and two rod fragments, as well as three Kufic dirhams, indicating that it was deposited *c.* 925 (*Treasure Annual Report 1998–1999*, no. 84). There is a further fragment amongst the bullion in the hoard from near Penrith (Flusco Pike no. 2), together with 'up to 120 coins', deposited *c.* 925 (*Treasure Annual Report 2005/6*, no. 310). Finally, one broad-band arm-ring occurs amongst the assemblage of material metal-detected from a 'productive site' in the North Yorks area (pers. comm. Gareth Williams; *Portable Antiquities and Treasure Annual Report 2007*, no. 197). The most recent find from Britain (as of 2010) to contain a broad-band arm-ring is the Vale of York hoard, deposited *c.* 927–8 (**Fig. 1.8**; Ager and Williams 2009, 113, no. 217,7; 2011, 146–7, no. 7; Williams and Ager 2010, 23, fig. 14; Ager 2011, 140, fig. 15).

The remaining two finds from England both appear to be connected to the activities of the Danish 'Great Army' during the early 870s: from Croydon (Whitehorse), Surrey; and Torksey, Lincs. The Croydon hoard contains one fragment of a broad-band arm-ring amongst its bullion (**Fig. 1.6**, no. 3), together with *c.* 250 coins, dating its deposition to *c.* 872, which makes it the earliest known coin-dated Viking-age hoard to contain hack-silver from either Britain or Ireland (see above, p. 9). It is suggested that it is a 'purely Danish' hoard, having been deposited when the 'Great Army' overwintered at London in 871/2 (Brooks and Graham-Campbell 1986; 2000), and is of major significance in that it provides an indicator of the origins of the Hiberno-Scandinavian broad-band arm-ring type. The Torksey assemblage is of equal significance, for there is good reason to assign it to the same early date range as the Croydon hoard, Torksey having been the location of the winter-camp of the 'Great Army' for 872/3. Blackburn has drawn attention to the range of finds from the site, which includes coins, polyhedral weights of Scandinavian type and fragments of gold and silver bullion (2002, 89–101; 2009, 48–50; 2011), amongst which is part of a broad-band arm-ring (Graham-Campbell 2002a, 56; 2004, 41; Blackburn 2011, 259, pl. 4,3). Like the Croydon hoard, this find is of significance because it provides evidence for the occurrence of broad-band arm-rings within ninth-century Danish cultural contexts.

The recently excavated enclosure at Llanbedrgoch, Anglesey, has yielded a small assemblage of ingots and hack-silver (**Fig. 1.19**), as well as some coins. Two of the hack-silver pieces are derived from broad-band arm-rings, whereas a lead trial-piece with stamped decoration from the site, in 'the form of a broad-band arm-ring of Hiberno-Scandinavian type', has suggested to Redknap (2004, 156–8, fig. 8,b; 2009, 37–8) that some arm-rings of this type may have been made on Anglesey by silversmiths from Ireland.

In addition to the hoards noted above, six apparently single-finds of broad-band arm-rings are known from Britain. Three of these are from Scotland: from Blackerne, Crossmichael, Kirkcudbrightshire (Graham-Campbell 1995, 153, S1); from a female Norse grave at Clibberswick, Unst, Shetland (*ibid*., 154–5, S4); and a fragment, probably from Largo, Fife (*ibid*., 157, S8). There are three single-finds of broad-band rings on record from England: from 'near Oxford' (see below, Appendix 2, no. 4); Barmby Moor, Yorks (*Treasure Annual Report 2004*, no. 77); and South Kelsey, Lincs (Leahy and Paterson 2001, 192), with both the latter examples being hack-silver fragments.

SCANDINAVIA

In Scandinavia, silver broad-band arm-rings of Hiberno-Scandinavian type and/or of its southern Scandinavian prototype are known from at least twenty-one locations. These comprise: fifteen hoards, the deposition of seven of which is coin-dated; two apparently single-finds; three settlement sites with hack-silver assemblages; and a Viking-age burial. The number of silver arm-rings of this type known from Norway is between thirty-five and forty, whereas there are twelve from Denmark – including the modern Swedish provinces of Skåne, Halland and Blekinge, and Schleswig in modern Germany.[10] An example in iron, unique to the corpus, is known from Sørhus, Vats, Skjold, Rogaland (Petersen 1928, 156, fig. 190).

A distinct group of these Scandinavian finds, most of which are from Denmark or have Danish connections, may be dated to the mid- and later ninth century. The broad-band arm-rings in these finds are, for the most part, of local manufacture and may thus be collectively regarded as the prototypes for the Hiberno-Scandinavian series. One of the more important of these Danish hoards is that from Sønder Kirkeby, on Falster, which contains a plain broad-band arm-ring, another ring formed from a portion of a spiral-ring, and a quantity of Kufic coins. Although its latest coin was minted in 846, the hoard will presumably have been deposited somewhat later in the ninth century, perhaps *c.* 875 as proposed by Graham-Campbell (in

Brooks and Graham-Campbell 1986, 97, note 37; 2000, 76, note 37). The association of the Sønder Kirkeby arm-ring with a spiral-ring is repeated in two further hoards from Denmark: from Kærbyholm, Odense, and Nørre Alslev, Falster, both of which have been dated to the second half of the ninth century (Munksgaard 1969, 59–61, fig. 4).

The Hørdum hoard, from Jutland, contains one broad-band arm-ring (**Fig. 5.10**) and a pair which are related in form, though not in their ornament (Skovmand 1942, 29–30, no. 2, fig. 2). This is one of only two hoards from Viking-age Denmark known to contain an arm-ring of this type which does not also contain spiral-rings, the second being that from Häljarp, Tofta, Skåne (Skovmand 1942, 39–40; Hårdh 2003, 50–1, fig. 13). The latter find contains three plain broad-band arm-rings, as well as other material, and over twenty Carolingian coins, the latest of which was minted between 814 and 840. The association of broad-band arm-rings with spiral rings is also a feature of the Norwegian hoard from Torvik, Volda, Møre og Romsdal (Bøe 1927, 24–6; Grieg 1929, 92–3, no. 92), one of only two hoard occurrences of spiral-rings in Norway. This find contains an arm-ring that is very close in both form and decoration to the Hørdum example. In terms of its overall contents, the Torvik hoard has more in common with finds from Denmark than from elsewhere in Norway, suggesting that it may have been an import of southern Scandinavian origin.

Because of the association of spiral rings, both directly and indirectly, with the arm-rings in the Sønder Kirkeby, Nørre Alslev, Kærbyholm, Hørdum and Torvik hoards, dates of deposition may reasonably be proposed for each of these finds in the second half of the ninth century. The Häljarp hoard also dates to this period, as may the burial mound excavated by Petersen at Heigreberg, Rennesøy, Rogaland (1941, 25–30), within which two hack-silver fragments of a broad-band arm-ring occurred amongst the extensive assemblage of grave-goods. Among over 500 coins and pieces of hack-silver from the 'central place' at Uppåkra, Skåne, there is a large terminal fragment of a broad-band arm-ring.[11] Some broad-band arm-ring fragments are also represented amongst the hack-silver material excavated from the Viking-age settlement at Kaupang, Vestfold (Hårdh 2008, 113–14, fig. 5,13), at least some of which is of ninth-century date.

The second distinct group of Scandinavian finds to contain broad-band arm-rings is mostly from Norway, probably dating in the main to the tenth century. Several of these finds also contain other forms of Hiberno-Scandinavian or Irish silver objects and the majority of the broad-band arm-rings also belong to the Hiberno-Scandinavian series. The classic example in this regard is the large hoard from Grimestad, Stokke, Vestfold (*Universitetets Oldsaksamlings Årbok 1935–36*, 268–73),[12] containing forty ornaments, mostly complete, and seventy-seven Kufic coins which provide a *terminus post quem* (*tpq*) of 921 for its deposition (Skaare 1976, 138, no. 43), with Graham-Campbell suggesting that it was probably deposited *c.* 930 (1988b, 108). The bullion element includes six broad-band arm-rings (two as fragments), Hiberno-Scandinavian lozenge-sectioned annular arm-rings (see below), two fragments of a Hiberno-Scandinavian 'ribbon-bracelet' (as discussed above), two fragments of brooch-pins, possibly of Irish type, one possible example of Scoto-Scandinavian 'ring-money' (see below, pp. 103–4), ingots, a neck-ring and fifteen arm-rings, both complete and fragmentary. A substantial proportion of this hoard is, therefore, of Hiberno-Scandinavian origin.

The hoard from Bøstrand, Evenes, Ofoten, Nordland (Grieg 1929, 258–60, fig. 63), has been paralleled with the Grimestad find by Graham-Campbell (1988b, 108–9). This consists of eleven arm-rings and four arm-ring fragments, amongst which are at least four broad-band rings and two fragments. The Hiberno-Scandinavian elements in the find are pronounced and the greater part of it, as Graham-Campbell points out, may have been assembled in Ireland. The Slemmedal, Hommedal, Aust-Agder, hoard is the second coin-dated example from Norway known to contain Hiberno-Scandinavian broad-band arm-rings. It is a mixed gold and silver hoard (Blindheim 1981, 17–18) and contains two broad-band silver arm-rings, one in four pieces, as well as a variety of other ornaments, including fragments of a ball-type brooch and five Frankish mounts, together with five fragmentary coins on the basis of which its deposition has been assigned a *tpq* of *c.* 915–20 (Skaare 1981, 40). Blindheim suggested that the hoard was mainly assembled in the West (1981, 30). Broad-band arm-rings occur in two other coin-dated hoards from Norway: from Vela, Sand, Rogaland, and Os, Halden, Østfold (Grieg 1929, 205–6, no. 9, and 203, no. 3). The numismatic element of the Vela find comprises ten Kufic coins, on the basis of which Skaare could only date its deposition to the first half of the tenth century (1976, 150, no. 89). The small Os find included two Kufic coins, on the basis of which Skaare dated its deposition to 'after 834' (*ibid*., 128. no. 5), but this is an unlikely early date for the types of ring represented and so is to be treated simply as a *tpq*.

Apart from the Bøstrand find, discussed above, there are four coinless hoards from Norway that contain broad-band arm-rings: one from the area of Tønsberg, Vestfold (Grieg 1929, 235–6, no. 50), consists of three arm-rings, including one of broad-band type, and two ingots; the Osnes, Hordaland, hoard (Rygh 1885, nos 717–18) includes four broad-band arm-rings and four hack-silver fragments, with the decoration on one of the fragments being closely comparable to that on one of the broad-band arm-ring fragments in the Goldsborough hoard (deposited *c.* 925), already noted (**3:9**), and it seems likely, on the basis of this striking parallel, that the Osnes find also dates to the same period; the hoard from Vestre Rom, Vest-Agder (Grieg 1929, 239–40, no. 61), comprises four arm-rings, all of which are of Hiberno-Scandinavian types, consisting of two complete broad-band arm-rings, with part of a third, and a coiled arm-ring (Sheehan 1992a, 41); and the fourth hoard is that from Torvik, already noted above.

There is one tenth-century hoard from Denmark known to contain a single example of a broad-band arm-ring, that from Rebild, Skørping, Jutland. This is a large hoard (weighing *c.* 5kg), comprising at least 146 objects, which consist for the most part of ingots and hack-silver, but include a single Kufic coin (Munksgaard 1972, 199–201; Vebæk 1980, 70). The latest object, as recognised by Munksgaard (1972, 200–1, no. 9), is to be identified as the complete hoop of a penannular brooch of Stenberger's 'Typ Rn 1' (1947, 74f.), suggesting that the hoard was deposited in the mid- to late tenth century (cf. Graham-Campbell 1984, 32–5).

Two single-finds of silver Hiberno-Scandinavian broad-band arm-rings are on record from Scandinavia, both from Norway. A complete example of the annular variety is represented by a single-find from Tjore, Landvik, Holmedal, Aust-Agder (Blindheim 1981, 18), while the penannular variety is represented by an example from Hetland, Rogaland. A single-find of a broad-band arm-ring is on record from the excavation of a Vendel period/Viking-age settlement at Stockholmsgården, Valleberga, in south-east Skåne (Strömberg 1961, 24, fig. 24,66).

ORIGINS

The distributional evidence suggests that broad-band arm-rings were manufactured in Ireland by the Hiberno-Scandinavians, most probably centred in Dublin. The number of find-spots from Ireland is forty-five, with only nineteen or twenty from Britain (several of which have strong Hiberno-Scandinavian associations), and twenty-one from Scandinavia. These figures suggest that Ireland was the centre of production, with the largest number of arm-rings travelling the shortest distance, i.e. to the north-west and north of England.

In early medieval Ireland there is no precedent for either the form or the ornament of broad-band arm-rings, with native armlets being generally made of glass and with the use of stamped ornament on metalwork being rare. In no instance does the motifs characteristic of Scandinavian arm-rings occur. As no local prototypes exist, it must be concluded that the type was introduced from a ninth-century Scandinavian milieu. Given the apparent close connections between Norway and Viking-age Ireland, it might be assumed that the origins of this type of arm-ring lie there, but there is little evidence to support this. Silver appears to have been relatively uncommon in ninth-century Norway compared to elsewhere in Scandinavia, judging by the hoard evidence, and most ornaments appear to be formed of rods rather than bands of silver, or gold (cf. Graham-Campbell 2006). Stamped decoration, when it occurs, is applied using individual-motif punches rather than the bar-stamps that are characteristically used to ornament Hiberno-Scandinavian broad-band arm-rings.

On the other hand, the case for a southern Scandinavian inspiration for the broad-band arm-ring is strong (Brooks and Graham-Campbell 1986, 97–8; 2000, 76–7; Sheehan 1998a, 194–8; 2001, 58–9). This rests on the occurrence in several ninth-century finds from Denmark and Skåne of both the form and the distinctive ornamentation that were later to characterise Hiberno-Scandinavian broad-band arm-rings. The essential components of the ornamentation are found on a number of the imitative 'Permian' spiral-rings produced in Denmark. Several examples, such as those from the Øster Tørslev, Tostrup, Duesminde and Illebølle hoards (Skovmand 1942, 33–6; Munksgaard 1969, 58–9), feature unusual band-shaped sections to their hoops that are ornamented by stamped arrangements which include transversely disposed grooves and diagonal crosses; the grooves are formed with bar-stamps and sometimes contain a row of pellets. The characteristic elements of the Hiberno-Scandinavian decorative repertoire are thus present in ninth-century Denmark. The common form of the Hiberno-Scandinavian series – penannular, broad-band rings, frequently with an expanded central area – is also represented in the Danish hoards. Examples include the plain rings from the coin-dated hoards from Häljarp, Tofta, Skåne (Hårdh 2003, 50–1), and Sønder Kirkeby, Falster (Munksgaard 1962, 105), both of which have ninth-century deposition dates. Ornamented examples include the two rings from the Kærbyholm hoard, Fyn (Munksgaard 1969, 59–61), which bear stamped decoration consisting of vertical grooves and diagonal crosses at their expanded centres, and a pair of arm-rings from the Nørre Alslev hoard, Falster (Skovmand 1942, 34–5; Munksgaard 1969, 59, fig. 5), one of which bears a number of diagonal crosses at the terminal areas. The hoard from Hørdum, Jutland, contains a similar arm-ring, with a central diagonal cross (**Fig. 5.10**), in addition to a pair which is related in form though not in ornament (Skovmand 1942, 29–30, no. 2, fig. 2). The Torvik hoard, from Norway (Bøe 1927, 24–6; Grieg 1929, 250–1, no. 92), probably of ninth-century date and Danish origin, as noted above, contains an arm-ring which is very close in both form and decoration to this Hørdum example. It is likely that these simple rings, which may be regarded as prototypes for the Hiberno-Scandinavian series, are of local Danish manufacture on the basis of the decorative characteristics they share with the imitative spiral-rings. In two hoards, those from Tostrup and Illebølle, these types of arm-rings are directly associated with such spiral-rings.

The origin of the broad-band series in ninth-century Denmark is further supported by the occurrence of a fragment of such a prototype ring in the hoard from Croydon, Surrey, which was deposited *c.* 872 (**Fig. 1.6**). On the basis of its contents, its geographical context and its probable connections with the 'Great Army' in England, this hoard may reasonably be regarded as Danish in origin (Brooks and Graham-Campbell 1986; 2000), as may the find of another fragment of this type of arm-ring amongst the hack-silver assemblage from the location of the (872/3) winter-camp of the 'Great Army' at Torksey, Lincs (Graham-Campbell 2002a, 56; 2004, 41; Blackburn 2002, 89–101; 2009, 48–50, figs 3–4). The date and location of these finds probably indicates both the main period and the route by which this early material travelled to the west and initiated the development of the Hiberno-Scandinavian series in Dublin. Ívarr, the Hiberno-Scandinavian king of Dublin who campaigned with the Great Army in England (Downham 2007, 63), may have been closely connected with the context within which the prototype material was initially introduced to Ireland.

Several individual arm-rings that could be either imported prototype rings of southern Scandinavian origin or Hiberno-Scandinavian copies of these may be identified in finds from Ireland, including one possibly from Co. Westmeath (**22**), as well as one from the Cuerdale hoard (**1:442**; **Fig. 5.11**, no. 12). It is also possible to identify close parallels between the motifs and ornamental schemes exhibited on Hiberno-Scandinavian broad-band arm-rings and on related material from this part of Scandinavia. Plain grooves formed with a blunt-nosed or chisel-like punch, a feature of arm-rings in the hoards from Hørdum, Torvik and Nørre Alslev, is also found on a range of Hiberno-Scandinavian rings from Ireland, such as those found at Emyvale, Co. Monaghan, as well as on several examples in the Cuerdale hoard (e.g. **1:511**; **Fig. 5.11**, no. 13). Similarly, the occurrence of grooves containing pellets on the Uppåkra ring and on one of the Kærbyholm rings is readily paralleled on arm-rings from Irish hoards (e.g. Cloghermore and Raphoe)

and is also found on rings in the Cuerdale hoard. One of the dominant features of the decoration of Hiberno-Scandinavian arm-rings is the use of stamped grooves with scalloped or serrated edges (e.g. **Fig. 5.11**, nos 17–18 = **1:498** and **490**), and these also feature on one of the Kærbyholm rings.

Less pronounced features of some of the southern Scandinavian material also find parallels in the corpus of broad-band arm-rings from Hiberno-Scandinavian contexts. For instance, an unusual double diagonal cross on one of the Kærbyholm rings, formed by crossing two pairs of parallel stamps (Munksgaard 1969, fig. 4), is a feature of two unlocalised rings from Ireland.[13] Likewise, the occurrence of a stamped dot in each of the angles of this motif is paralleled on both an unlocalised arm-ring fragment from Ireland[14] and one in the Cuerdale hoard (**1:511**; **Fig. 5.11**, no. 13). The identification of these motifs and stamp-types serves to reinforce the connections that existed between the silver-working traditions of ninth-century southern Scandinavia and Viking-age Ireland, as these are not of common occurrence elsewhere in Scandinavia. Ultimately, these connections are due to the primary importance of the southern Scandinavian and Baltic regions as a source for the silver used to supply the Hiberno-Scandinavian silver-working tradition (Sheehan 2001, 58–9).

FUNCTION

Hiberno-Scandinavian broad-band arm-rings appear to have been manufactured primarily for the storage and circulation of silver as a form of currency in Ireland's metal-weight economy, though it seems likely that they also served as status objects. Sheehan has examined the weights of a sample of complete Hiberno-Scandinavian broad-band arm-rings and suggested a target weight-range of *c.* 25.9 ± 0.4g to *c.* 27.3 ± 0.9g; quantum analysis on this material suggested a target of 26.15g (Sheehan 1984, 60–5). Kruse, however, has pointed out that problems may arise from the use of quantum analysis if multiple weight standards are present in the material (1988b, 293). Nevertheless, the 26.15g result was recently tested against the weights of an increased total of sixty-one complete arm-rings of this type, and it was found that almost two-thirds conformed to the proposed unit or to its multiples to a factor of five.[15] The greatest proportion of the rings conformed closely to the two-unit value of 52.3g. This result is of particular interest given that this proposed weight-unit differs by only 0.45g from the dominant unit reflected in the lead scale-weights from tenth-century Dublin (Wallace 1987, 206–7). Some broad-band rings, however, amounting to about a third of the sample tested, were clearly not manufactured to conform to this target value. It is possible that these examples were not intended to function in the Hiberno-Scandinavian metal-weight economy and, indeed, they may have been specifically produced to serve as status gifts for recipients outside this milieu.[16]

Silver objects might acquire minor nicks and pecks during commercial transactions, representing a characteristic Scandinavian method of assessing silver quality. The nature of a metal-weight economy also necessitated the reduction of ornaments to hack-silver, and examples of broad-band arm-rings reduced to this form occur in many hoards in Ireland. It is of interest to note, however, that there appear to be proportionally more complete examples of these rings on record from Britain and Scandinavia. This may be interpreted as indicating the status value attached to Hiberno-Scandinavian arm-rings, particularly once they were removed from the economic system in which they were produced (Graham-Campbell and Sheehan 1995, 777).

DATING

Broad-band arm-rings may be dated on the basis of a number of approaches, the most useful of which is their occurrence in coin-dated hoards. Occasionally, general date ranges for those hoards without a numismatic element may also be suggested on the basis of their associations. In a number of cases hoards and assemblages from archaeological contexts may be dated on the basis of the chronology of related features and material. Arm-rings of this type occur as part of sixteen coin-dated hoards. Only three of these are from Ireland, with six from Britain, and the remainder being Scandinavian finds. This disparity in numbers – only 10% of those hoards from Ireland which contain broad-band arm-rings also include coins, whereas over 50% of the similar hoards from Britain contain them – reflects the greater occurrence and acceptance of coin in Viking-age England.

At first sight the earliest coin-dated occurrence for broad-band arm-rings is the small hoard from Os, Østfold, because this includes two Kufic coins on the basis of which Skaare assigned the deposition of the hoard to 'after 834' (1976, 128, no. 5), but – as suggested above – this is simply a *tpq* determination. The hoard from Häljarp, Skåne, contains over twenty Carolingian coins, the latest of which was minted between 814–40. Its deposition has recently been assigned a general ninth-century date by Hårdh (2003, 50), although the mid-ninth century, as proposed by Skovmand (1942, 40), seems more likely. The hoard from Sønder Kirkeby, Falster, contains a quantity of Kufic coins, of which the latest was minted in 846; although Munksgaard suggested that it was deposited *c.* 900 (1962, 105), it seems probable that it took place significantly earlier. Skovmand proposed that it was deposited during the second half of the ninth century (1942, 35), whereas Graham-Campbell has placed it *c.* 875 (in Brooks and Graham-Campbell 1986, 97, note 37; 2000, 76, note 37). This seems sensible, on the basis that it shares with the Croydon hoard, deposited *c.* 872, the characteristic components of broad-band arm-rings and spiral-rings (though the latter also contains ingots). The Torksey assemblage, although not a hoard, is of equal significance for dating purposes, given that it was the location of one of the 'Great Army's' winter-camps during the early 870s and has also produced fragments of a broad-band arm-ring and a spiral-ring from the same general context (Blackburn 2002; 2009; 2011, 233, 259, pl. 4, 3–4).[17]

In summary, therefore, the finds from Häljarp, Sønder Kirkeby, Croydon and Torksey together provide evidence for the occurrence of broad-band arm-rings within Danish cultural contexts of the later ninth century. The chronological focus of three of these four deposits lies in the 870s, and it is evident that the south Scandinavian prototypes of the classic broad-band arm-rings had developed and become reasonably widespread by this time. It therefore seems likely that the development of the type began in the 850s or 860s. With the exception of the mid/late tenth-century hoard from Rebild, Jutland (Munksgaard 1972, 201), no further coin-dated hoards

containing broad-band arm-rings are known from Denmark after the mid-870s. This absence would appear to suggest that the type, in its Scandinavian manifestation, was a short-lived development confined to the second half of the ninth century.

Broad-band arm-rings do not appear in coin-dated deposits again until the first decade of the tenth century, when they form part of four hoards from Britain and Ireland: Cuerdale (Graham-Campbell 1987a, 339–40), deposited *c.* 905–10; Dysart Island (no. 4), Co. Westmeath (Ryan *et al*. 1984, 339–42), deposited *c.* 910; 'Co. Antrim' (Sheehan 1992a, 52), deposited *c.* 910?; and Magheralagan, Co. Down (Briggs and Graham-Campbell 1976, 20–23), deposited *c.* 910? Three of these finds are from Ireland, whereas the fourth, that from Cuerdale, has strong Hiberno-Scandinavian connections. The deposition dates of the hoards, all within a few years of the collapse of the Hiberno-Scandinavian *longphort* settlement of Dublin in 902, suggest that these finds may represent some of the dispersed wealth of later ninth-century Dublin. Most of the arm-rings in these hoards are of the developed Hiberno-Scandinavian series, indicating that its development had begun during the closing decades of that century, possibly *c.* 880. The fact that no examples are definitively dateable to their first twenty years of production is partly a reflection of the fact that there are no coin hoards from the 880s or 890s on record from Ireland.

All seven remaining coin-dated hoards containing broad-band arm-rings are from Britain or Norway. Two of these, however, from Vela, Rogaland, and Warton, Lancs, contain too few coins to have well-dated depositions, other than in the first half of the tenth century. The numismatic element of both comprises small numbers of dirhams and Skaare was only prepared to date the deposition of the Vela hoard to 900–50 (1976, 150, no. 89). On the basis of its coins, the Warton hoard was probably deposited *c.* 920–25 (see also Sheehan 2000b, 53, fig. 5).

The five other coin-dated hoards, three from Britain and two from Norway, were all deposited in or around the 920s. These are those previously mentioned: from Slemmedal, Aust-Agder, with a *tpq* of *c.* 915–20; Goldsborough, Yorks, deposited *c.* 925; Grimestad, Vestfold, with a *tpq* of 921; Bangor, Gwynedd, deposited *c.* 925; and that from the Vale of York, deposited *c.* 927–28.

In summary, therefore, all coin-dated depositions of the Hiberno-Scandinavian series of broad-band arm-rings fall within the period 900–30, apart from the later exception in the Rebild hoard, Jutland. As suggested above, the development of the type had probably begun in Ireland *c.* 880. There is little doubt that the type continued to be produced and circulated beyond, and possibly during, the apparent hiatus of Viking Dublin from 902–17, as reflected in its coin-dated occurrences. However, it does not occur in any of the eight tenth-century coin-dated hoards containing non-numismatic silver recorded from Ireland, from the 930s onwards, when ingots tend to dominate the finds, indicating that by then such arm-rings had gone out of fashion. The majority of broad-band arm-rings, therefore, appear to have been produced during the fifty-year period of *c.* 880–*c.* 930.

(D) Twisted- and plaited-rod arm-rings (1:696–721; see also **6**, **10**, **11:5**, **12:1**, **12:10–11**, and **17–20**, together with numerous small fragments in the Cuerdale hoard)

The simplest type of twisted-rod arm-ring is formed from two or more rods of gold or silver twisted together (e.g. **Fig. 5.13**), with the most elaborate having the addition of twisted wires laid between the rods (as **12:5**, **13:1**, **13:10**, and **20**; see also the fragment which forms part of (**6**), the gold 'assemblage' from Shotton Hall, Co. Durham). They are most often annular in form, with twisted or knotted ends, although in the case of three of the gold arm-rings catalogued here, one (in the Ballaquayle hoard, Isle of Man, deposited *c.* 970) has its ends joined by an expanded linking-plate, with stamped decoration (**13:1**), and the other two (both from southern England) have theirs combined in plain knops (**18–19**). As previously noted (Graham-Campbell 1983a, 68), the Ballaquayle arm-ring 'is exactly paralleled in Norway by a ring from the Vulu, Sør-Trøndelag, hoard (Grieg 1929, no. 104b, fig. 58)'.

There is one complete twisted-rod silver arm-ring in the Cuerdale hoard (**1:697**), which consists of a pair of rods, closed with a spiral device (or whorl), as is also used with some single-rod arm-rings, to be discussed next; it has been flattened (**Fig. 5.13**). It is more usual, however, for such annular arm-rings to be closed with a simple twist, in the manner of the (6-rod) arm-ring in the Selby, Yorks, hoard (**Fig. 1.10**; Graham-Campbell 2008a, no. 2, fig. 13,b). The complete twisted-rod arm-ring in the Vale of York hoard is also annular, but simply made from a pair of rods (Ager and Williams 2009, 113, no. 217,18; 2011, 148, no. 18; Williams and Ager 2010, 23, fig. 12). The finest example of this type from Britain and Ireland is, however, the (8-rod) arm-ring with animal-head terminals (**Fig. 1.3**), in the Skaill hoard, Orkney (Graham-Campbell 1995, no. 24:22, pl. 37).

In addition, there are two twisted-rod arm-rings which are penannular in form: the gold ring from Wendover Dean, Bucks, which has plain straight ends (**20**); and the silver ring in the coinless Ballacamaish hoard, Isle of Man, which has its ends capped with biconical knobs (**12:5**). The latter, although unusual in form (Graham-Campbell 1983a, 68), has a close parallel from Scotland in the hoard from near Port Glasgow, which may have been deposited *c.* 970 (Graham-Campbell 1995, 95, no. 1:1, pl. 1,a).

The second of the two complete multi-rod arm-rings in the Cuerdale hoard[18] is made from four plaited rods, with their ends fused together to be closed with a simple twist (**1:696**; **Cat. Fig. 3**). The catalogue also includes a pair of plaited (6-rod) silver arm-rings from Ireland, which have their ends joined by linking-plates (**11**), in the same manner as that in the Manx hoard from Glenfaba, deposited *c.* 1030 (Fox and Bornholdt Collins 2004; Hall 2007, 202 and fig.). On the other hand, the plaited annular arm-ring in the Selby, Yorks, hoard has its ends wound crudely around each other (**Fig. 1.10**; Graham-Campbell 2008a, no.1, fig. 13,a).

More elaborate than even these plaited-rod rings is the remarkable gold arm-ring from Munterconnaught, Co. Cavan (**21**), which is formed from a single rod around which has been plaited, from seven thin rods (most probably drawn wire), a complex cage-like structure; the ends are soldered to a lozenge-shaped, decorated, linking-plate. This appears to be an Insular – presumably Hiberno-Scandinavian – variant, given that there exists a gold fragment of this type also from Ireland which,

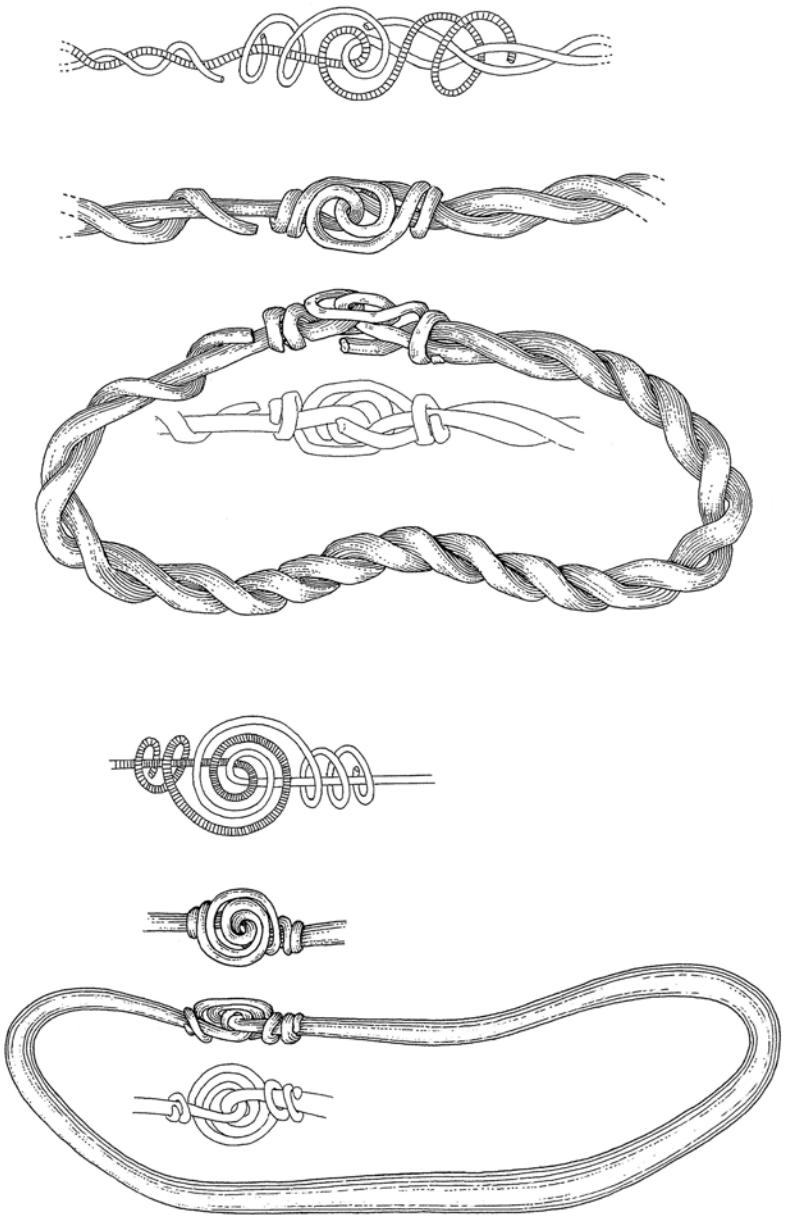


Figure 5.13 Two types of annular silver arm-ring from the Cuerdale hoard: (**1:697**) twisted-rod, and (**1:836**) single-rod

according to Bøe (1940, 104), has 'apparently five wires'. In addition, there is a substantial fragment of such an arm-ring, in silver, which forms part of the Manx hoard from Ballaquayle (**13:11**), deposited *c.* 970; this is a seven-rod plait, like the Munterconnaught ring. There is, however, a fragment of a silver finger-ring of this type known from excavations in Norwich, Norfolk, in a Period II–IV context (Margeson and Williams, in Ayers 1985, 29, fig. 23, no. 2), dating from the 'eleventh century to *c.* 1075' (Ayers 1985, 1).[19]

In general, however, the twisted/plaited-rod arm-rings (as with the neck-rings, discussed above pp. 89–91) will either have been imported from Scandinavia or have been manufactured in Insular 'Viking' contexts. A possible exception is a ring fragment in the Cuerdale hoard (**1:707**) made with rods of flattened section, which were so tightly twisted together as to result in a smooth surface. Its distinctive appearance is thus the same as that of the silver arm-ring, with one surviving ball-shaped terminal, from Long Wittenham, Oxon (*Oxoniensia* 23 (1958), 133; Hinton 2008, 49 (fig.), 50), which is probably best considered as being of Anglo-Saxon manufacture.

It was for long maintained that such twisted/plaited-rod rings in the Viking-age hoards were ultimately of eastern inspiration; however, recent research has demonstrated that a western origin is far more probable, with them becoming a Scandinavian fashion from the mid-ninth century onwards (Graham-Campbell 2006).[20] It is possible that a reason for this widespread Viking-age fashion is that, in order for the rods to be successfully twisted (or, more particularly, plaited), the silver needed to be soft in order to be flexible – and therefore of good quality.[21] The very appearance of such rings would therefore have been some sort of guarantee that one was not being presented with a plated forgery (cf. p. 79).

Altogether there are five complete gold arm-rings catalogued here (all of which are of twisted/plaited types): England (three); Ireland (one); and the Isle of Man (one). This total for England, together with the twisted-rod arm-ring from Brightlingsea, Essex, in the Ashmolean Museum, Oxford (*VCH: Essex*, I, 327; Hinton 2008, 49 (fig.), 50), compares well with the four or five on record from Scandinavian Scotland (Graham-Campbell 1995, nos 15, S11 and S24, pl. 72; 2005, 127), but contrasts markedly with the fact that over forty gold finger-rings of the period, from England alone, are listed below in Handlist 2(c). The English total of gold arm-rings has, however,

since been increased by a twisted-rod example from the York area (*Treasure Annual Report 2004*, no. 76; Graham-Campbell 2008a, 308); in addition, there is now the gold narrow-band arm-ring, with stamped decoration, from the Vale of York hoard, deposited *c.* 927–8 (as mentioned above, p. 10; **Fig. 1.8**).

(E) Single-rod arm-rings, of polygonal, circular and lozenge section (**1:836–972**, with **1,062** and **1,133–51**; see also **3:7–8**, **6**, **12:3–5**, **12:12–19**, **12:22**, and **23**).

The most massive type of single-rod arm-ring known from Britain and Ireland is of Viking-age Gotlandic/Scandinavian manufacture, being penannular in form and polygonal in section, with stamped decoration on its outer faces (Stenberger 1958, 104–7; Wiechmann 1996, list 5, map 54). It is represented in the Cuerdale hoard by one complete example, of octagonal section, which is simply ornamented with stamping across its three outer angles; however, this arm-ring is catalogued here as a 'buckle' (**1:1,062**), having been converted into such, presumably in an Insular context, by the addition of a cut-down pin from a small 'thistle-brooch' (**Fig. 6.1**). The one terminal fragment from Cuerdale (**1:959**) is slighter and has stamped decoration along all four of its main faces. There is, however, a substantial fragment of another octagonal-sectioned arm-ring (**1:960**; **Fig. 5.14**, no. 65), which is more characteristically ornamented with stamped decoration on its three outer faces, as likewise a further (octagonal-sectioned) fragment (**1:960**), which is closely paralleled by a fragment in Dysart Island (no. 4), Co. Westmeath, deposited *c.* 910 (Ryan *et al*. 1984, 341, 344, no. 96, pl. 9,24; Sheehan 1998a, 170, fig. 6.2). There is a plain gold (octagonal-sectioned) fragment amongst the precious-metal assemblage from the (872/3) winter-base of the 'Great Army' at Torksey, Lincs (Graham-Campbell 2004, 41).[22]

The largest part of the gold 'assemblage' from Shotton Hall, Co. Durham (**6**), is a cut fragment of a much slighter, plain (octagonal-sectioned) annular arm-ring, which had a spiral terminal; the smallest of the three gold fragments, which together form this loop, may well have formed its other terminal.

Single-rod arm-rings are more usually of circular or lozenge section (**Figs 5.13** and **5.15**), although one or more angles of the latter type may be slightly flattened, as with the complete penannular ring (**1:890**), creating a more polygonal section (cf. Graham-Campbell 1995, fig. 20). There exists, therefore, some potential for confusion when dealing with plain ring fragments so that classification has inevitably been somewhat arbitrary in the case of various pieces of hack-silver in the Cuerdale hoard, although size was a further factor taken into consideration. The lozenge-sectioned type developed, during the tenth century, into the so-called 'ring-money' of Scandinavian Scotland (to be discussed last).

Single-rod arm-rings of circular section, of annular type, were classified by Stenberger into two groups (1958, 96–100, figs 8–9; cf. Hårdh 1976, 56–9), depending on (i) whether their terminals were simply twisted together (**Fig. 5.15**, no. 54), or (ii) whether they incorporated a spiral device (**Figs 5.13** and **5.15**, no. 53). This distinction has been followed by Sheehan in the Insular context, who has written of 'rod-armrings' (1992b, 213) that:

> Rod-armrings are of common occurrence in the Viking-age hoards of Scandinavia, but are much rarer in the western Viking world. Examples formed with rods of various types of cross-section are on record, but the predominant rod-armring type combines all or most of the following characteristics; it is fabricated from a rod, of circular or approximately circular cross-section, and is annular in form; the rod tapers in thickness towards the terminals which are normally simply wound around the opposite side, although in some cases they are intertwined to form a closing spiral-knot; the ring is normally plain and undecorated, and may occur in gold, though examples in silver are of far more common occurrence.

As far as chronology is concerned, Sheehan has demonstrated a ninth-century Scandinavian origin for such single rod arm-rings, even if they may not have come into widespread use before the mid-tenth century (1992b, 47, table 4; 1998a, 190–2).

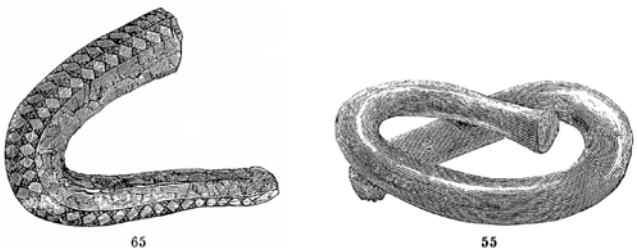


Figure 5.14 Terminal fragment of a silver polygonal-sectioned (octagonal) arm-ring, with stamped decoration (no. 65), and a plain rod arm-ring (no. 55), from the Cuerdale hoard

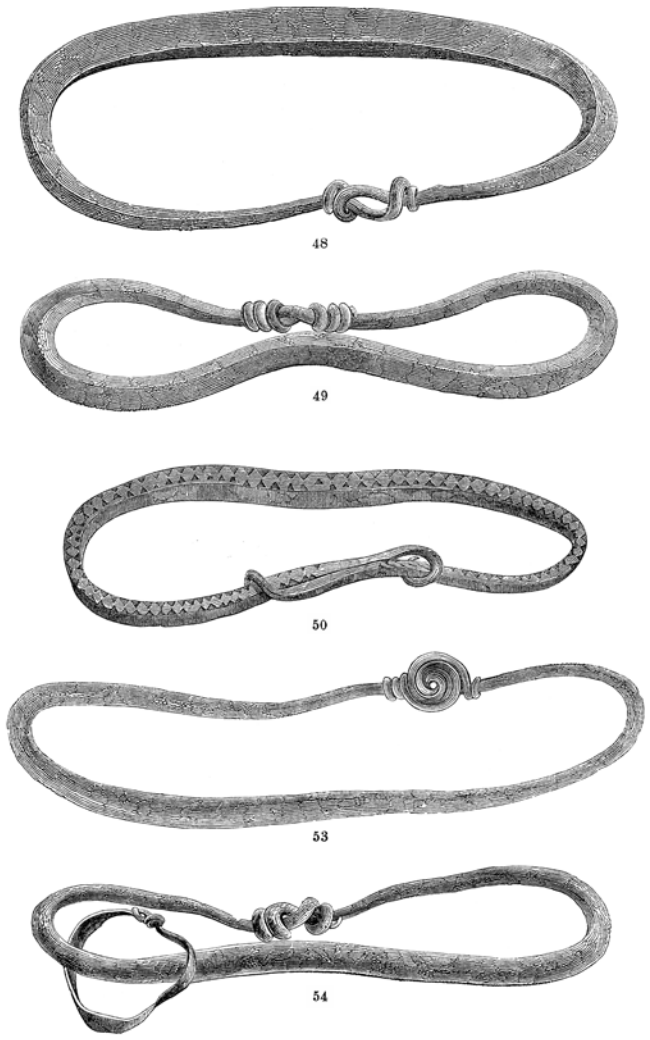


Figure 5.15 Silver, annular, single-rod arm-rings (nos 48–50 and 53–4), from the Cuerdale hoard

The late ninth-century Norwegian hoard from Hoen contains a gold example of the simple type (i), which has been discussed by Graham-Campbell (2006, 79–80, no. 5, pl. 3, with parallels). There are five complete silver examples in the Cuerdale hoard (**1:836–9** and **841)**, of which two are in perfect condition (**1:839** and **841)**, together with a sixth that is near complete (**1:840**); there are also numerous fragments of varying size. One of the complete (bent) rings is weight-adjusted with the addition of a finger-ring (**1:837**; **Fig. 5.15**, no. 54).

In addition, there is for England a complete example known from the hoard found near Deptford, Kent, deposited *c.* 935 (Graham-Campbell 1986); a further example is present in the Skaill, Orkney, hoard, deposited *c.* 960–80 (Graham-Campbell 1995, 38, 122, no. 24:106, pl. 38,b), and there is a single-find from the Solway Firth (*ibid*., 38, fig. 19). A fine pair formed part of the lost silver hoard (**Fig. 6.11**) from Garron Point, Co. Antrim (Gray 1907).

The type of single-rod arm-ring, of circular section, with spiral-linked terminals (ii), is likewise represented by a complete example in the Cuerdale hoard (**1:836**; **Figs 5.13** and **5.15**, no. 53). There is, however, a finer ring of this type known from Ireland, as one of two arm-rings which form a hoard from Rathmooley, Co. Tipperary (Sheehan 1992b; 1998a, fig. 6.9).

The second arm-ring in the Rathmooley hoard, which is also a rod arm-ring of circular section, has been described by Sheehan as belonging to 'the plain penannular armring' type (1992b), of which there is also an identifiable terminal fragment in the Cuerdale hoard, although bent out of shape (**1:852**; **Fig. 5.14**, no. 55). Sheehan (*ibid*., 214) drew attention to two other Irish hoards containing such simple rod arm-rings (of circular section), both from Co. Cork: Kilbarry/Killeens and Macroom Castle (Graham-Campbell and Briggs 1986, 311–13, figs 3 and 5). Amongst the other contents of the Macroom hoard was a (lost):

> Armilla or bangle … ingeniously formed so as to expand readily for the convenience of the wearer; each extremity terminates in a spiral twist, through which the other extremity is passed. (*ibid*., 312, quoting from the *Archaeological Journal* 8 (1851), 205–6)

This is a clear description of an annular rod arm-ring with overlapping ends of the type represented in the Cuerdale hoard both by a complete decorated arm-ring (**1:892**; **Fig. 5.15**, no. 50), of lozenge section, and a plain terminal fragment, of circular section (**1:844**).

Annular rod arm-rings of lozenge section have twisted ends of the simple type already noted for those of circular section (cf. **Fig. 5.15**, nos 48–9). There are three such complete (plain) arm-rings in the Cuerdale hoard (**1:883–5**), including Hugo's lost example (**Pl. 40**), well paralleled by a massive plain example from Ireland (Bøe 1940, 118, fig. 81). In addition, Cuerdale contains one complete annular ring with stamped decoration around its two outer faces (**1:891**), as well as a complete example of the decorated variant with overlapping ends, noted above (**1:892**; **Fig. 5.15**, no. 50); this is, as described by Hawkins (1847, 121–2, fig. 50):

> Quadrangular, [with] one of the flat sides…turned towards the arm; it has not on that side any ornament, but the three other sides have each a row of lozenges formed by a triangular punch.

The ornamented example on record from Co. Galway (Bøe 1940, 112, fig. 74) is more typical in having stamped ornament on its two outer faces, in the same manner as some penannular arm-rings, including two fine examples in the Skaill hoard (**Fig. 1.3**), deposited *c.* 960–80, (Graham-Campbell 1995, 115, 122, no. 24:25 and 105, pl. 39), together with two terminal fragments (*ibid*., 119, 120, no. 24:72 and 88, pls 45,i and 49,f). There are fifteen (mostly small) decorated ring fragments of this type in the Cuerdale hoard (**1:893** and **900–13**).

There is, in addition, a terminal fragment in the Goldsborough, Yorks, hoard (**3:8**), deposited *c.* 925, which is stamp-decorated across its three outer angles, together with a plain 'lozenge-sectioned' fragment (**3:7**); the latter is plain, cut from the mid-part of the hoop, but its angles have been hammered (= octagonal), and so it cannot be determined whether it derives from a plain rod arm-ring or a piece of true 'ring-money'. In this connection, the most interesting fragment from Goldsborough is, however, that classified here as 'waste' (**3:6**), as a rod of circular section in the process of being hammered into one with a lozenge section (see above, p. 85).

It is, therefore, of particular interest that amongst the rod fragments in the Cuerdale hoard are two that join (**1:888–9**), given that together they represent a complete, but unfinished (annular) arm-ring (**Pl. 40**). On the basis of the straight terminal fragment (**1:889**), this tapered rod had been fully finished, with its 'lozenge' section modified to hexagonal, as a result of its inner and outer angles having both been flattened. After this rod had been broken into two pieces (while still straight), the longer fragment (*c.* 2/3 of the original) was bent into a figure-of-eight loop, but it has also remained complete to its tapered end (**1:888**).

These simple rod arm-rings in the Cuerdale and Goldsborough hoards, both annular and penannular (with their numerous fragments), provide the background for the development of what has come to be known as 'ring-money'. This was the most favoured form of ring in Scandinavian Scotland from the mid-tenth century until the early/mid-eleventh. Since its preliminary presentation by Graham-Campbell (1976a, 125–6), combined with a metrological analysis by Richard Warner (1976), the 'ring-money' phenomenon has been the subject of much further discussion, summarised as part of a fuller study by Graham-Campbell (1995, 38–40 and 57–9), and more recently in a paper by Graham-Campbell and Sheehan (2007, 536–8)

A key-feature in the emergence of what is now known as 'developed ring-money' (Graham-Campbell and Sheehan 2007, 537) is that these plain rod arm-rings 'invariably taper markedly in thickness towards the terminals' (Sheehan 1992b, 216, note 27), as is the case with one plain penannular arm-ring, of lozenge section with flattened angles (polygonal), in the hoard from Grimestad, Vestfold, which was deposited *c.* 930 (see above, p. 97). It is arguable that this is one of the earliest known examples of what might be considered to be a 'true' piece of 'ring-money' (cf. Graham-Campbell 1976a, 125–6). The one complete (plain) penannular arm-ring in the Cuerdale hoard, with the appearance of a piece of 'ring-money' (**1:890**) is both small and chunky in comparison and is thus to be considered here to belong amongst the prototypes, as is a simple penannular arm-ring in the Vale of York hoard (Ager and Williams 2009, 113, no. 217,3; 2011, 146, no. 3; Williams and Ager 2010, 24, fig. 20; Ager 2011, 139–40, fig. 14).

A further factor relevant to this discussion is that the type of lozenge-sectioned arm-ring with continuous stamped

decoration, represented in both the hoards from Cuerdale (*c.* 905–10) and Goldsborough (*c.* 925), as discussed above, does not occur in any coin-dated hoard after that from Skaill, which was deposited *c.* 960–80 (Graham-Campbell 1995, 40). For example, it is not represented in the only other hoard from England known to have contained 'ring-money' – that from the Castle Esplanade, Chester (**Fig. 1.12**), which was deposited *c.* 965 (Webster 1953) – nor that with which it has much in common, from Ballaquayle in the Isle of Man, deposited *c.* 970 (to be considered below).

It is thus the Skaill hoard (**Fig. 1.3**) that currently determines the establishment of 'developed ring-money' (Graham-Campbell and Sheehan 2007, 536–7), with the next largest Orkney hoard, that from Burray (deposited *c.* 997–1010), consisting almost entirely of such rings and their fragments (Graham-Campbell 1995, 51–2, 131–41, no. 28, pls 53–65).

Of the eight complete single-rod arm-rings in the Ballaquayle hoard, one (of lozenge section) is annular in form, with its ends simply twisted together (**13:3**), but the other seven represent standard forms of plain penannular 'ring-money' (**13:4–5**, **12–15** and **21**), with four different sections (one octagonal; one hexagonal; two lozenge; and two circular), and three different types of terminal (four flat-ended/blunt; two pointed/hammered, or 'spatulate'; and one pointed). In addition, there are four fragments (**13:16–19**), with two different sections (two lozenge; and two circular), of which three have an extant terminal (two pointed; and one flat).

It is evident, therefore, that, by the date when the Ballaquayle hoard was deposited in the Isle of Man (*c.* 970), 'ring-money' had become an established feature in the combined display/bullion economy of Scandinavian Scotland, with its deposition falling between the two largest hoards known from the earldom of Orkney, as mentioned above: Skaill (*c.* 960–80), and Burray (*c.* 997–1010). In addition, the Ballaquayle hoard provides evidence for the emergence of the flattened, or 'spatulate', form of terminal, which does not feature in the Skaill hoard, but which is in a majority in Burray (Graham-Campbell 1995, 51).

Finally, this catalogue contains a complete piece of plain 'ring-money' (**24**; of lozenge section, with flat terminals having rounded ends), found in Ireland, but without further documentation; this is a slight example, weighing 19.0g.

As noted above, 'ring-money' has been subjected to some investigation as to whether or not it might have been produced to a weight-standard – and could thus have served as a form of currency, particularly in Scandinavian Scotland. The unit of 24.0 ± 0.8g, originally proposed by Warner (1976), can be considered as a 'target-weight', but even then, as Kruse has commented (1988b, 288), 'a large number of rings miss the target, often by a large amount'. The suggestion that 'ring-money' might have constituted 'a state currency' in the north (Crawford 1987, 133–4) has been criticised as 'overly elaborate' (Kruse 1993, 199; see also Graham-Campbell 1993b, 180–2; 1995, 57–9; Williams 2004; Graham-Campbell and Sheehan 2007, for further discussion of this topic).

There is, however, general agreement that target-weights in the mid-20g range will have existed, representing an ounce (with its multiples), even if there were local variations (cf. Sheehan's heavier target-weight of 26.15g established by him for the Hiberno-Scandinavian broad-band arm-rings). In this context, it is also worth recalling the conclusion reached by Kruse and Graham-Campbell, in the previous chapter (p. 78):

> Many of the Viking-age silver ingots found in England and Wales were cast to a unit in the mid-20g – and that this basic unit perhaps corresponded to *c.* 25–26g.

On the basis of this discussion, it might be suggested, of the seven complete pieces of standard 'ring-money' from the Ballaquayle hoard (described above), that the lightest represents approximately 1oz (at 22.2g), with two weighing 2oz (47.5 and 49.7g), together with an approximate third (50.9g), and one of 3oz (71.6g). The heaviest of the rings (at 93.1g) would thus have been intended to weigh approximately 4oz, leaving only the one example outside the proposed weight-system (at 66.6g, it falls well short of the 3oz target).

(F) Coiled-rod arm-rings (1:973–7)

Coiled-rod arm-rings represent a Hiberno-Scandinavian type, first defined and discussed in detail by John Sheehan (1992a).[23] His current definition of a coiled-rod arm-ring (Sheehan 1998a, 180) is:

> Annular in form and made by coiling a single rod, usually twice, before winding its ends around either side of a short, single section of the hoop. The rods are normally decorated with opposed-triangle or hour-glass motifs formed with a simple punch.

Sheehan has identified twenty-seven examples of coiled-rod arm-rings, almost all of which are from Ireland, including an unfinished ring (1992a; 1998a, 180, note 50). The only definite examples known from Britain are four fragments in the Cuerdale hoard, which have the characteristic stamped ornament that renders the rods ovoid or D-shaped in section; they all appear to be derived from different rings (**1:973** and **975–7**; Sheehan 1992a, 52, nos 23–6). One small plain rod fragment, with an oval section, from Cuerdale (**1:974**) has been included in this category.

These Cuerdale hack-silver fragments provide part of the evidence for coiled-rod arm-rings having overlapped both chronologically and spatially with Hiberno-Scandinavian broad-band arm-rings, given that examples are also known from two Norwegian finds (Sheehan 1992a, 51, nos 16 and 18, pls 4–5; 1998a, 180).

The coiled-rod arm-ring type is also represented in miniaturised form as finger-rings, with seven examples on record, of which two (both of gold) are catalogued below, as 'Rod (C)' – from north-west England (**30**) and Ireland (**34**).

Finger-rings

There are some thirty-two finger-rings (including fragments) in this catalogue, the majority of which are from England, although two are from Ireland, one from Scotland and one from the Isle of Man. Thirteen of these rings are of gold (representing twelve finds); on the other hand, the silver rings represent only three finds, given that this group is dominated by the Cuerdale hoard, deposited *c.* 905–10, which contains at least seventeen examples (**1:837** and **978–94**; with **979–80** being two pieces from the same ring).[24] Only four of the other finger-rings are from hoards: Ballaquayle (**13:6**; one silver), deposited *c.* 970; Soberton (**7:1–2**; two gold), deposited *c.* 1068; and Lark Hill (**5**; one silver), deposited *c.* 1175. It emerges therefore that, whereas all the silver rings are from coin-dated hoards (spanning nearly three centuries), the majority of the

gold rings are single-finds.

Viking-age finger-rings in Scandinavia have been classified into two main types, depending on whether they are formed from a single band, or from one or more rods (Stenberger 1958, 134–9, figs 20–1). For the purposes of this catalogue, they have been divided here into five groups (A–E), according to their method of manufacture:

(A) Band
(B) Single rod
(C) Coiled rod
(D) Twisted rods
(E) Plaited rods.

Band finger-rings are present in two forms, being made either as a simple band (both plain and stamped), or as a complex band (formed from twisted wires, etc.).

As demonstrated by Handlist no. 2(c), eighty-one gold finger-rings of Viking character were known from Britain and Ireland by the end of 2005, so that it is evident that this group of material (together with the silver versions) is now in need of separate study. The main purpose here will, therefore, be to classify the catalogued rings and to determine their chronological parameters, as far as possible, for the purpose of establishing a framework for future research (which will then require a greater range of Scandinavian parallels to be considered than are assembled here).[25] On the other hand, given that the British Museum's collection contains thirteen out of the eighty-one gold finger-rings listed above, together with a further nineteen silver examples (of which only six have been previously published), it is evident that this part of the material is in need of more than simple categorisation.

When the thirty-two gold finger-rings are combined, they total:

(A) Band:	1
(B) Single rod:	3
(C) Coiled rod:	2
(D) Twisted rods:	3
(E) Plaited rods:	4

The seventeen (or nineteen) silver rings in the Cuerdale hoard do, however, represent only three of these five groups:

(A) Band:	9 (10)
(B) Single rod:	7 (8)
(D) Twisted rods:	1.

Anticipating the discussion that follows, it will be suggested that there is, in part anyway, a chronological distinction between twisted- and plaited-rod finger-rings, in that the simpler twisted form is known from at least the late ninth century onwards (continuing in use well into the twelfth century, and even beyond), whereas the plaited version is demonstrably a later introduction (and essentially an eleventh-century fashion), thus explaining its absence from the Cuerdale hoard. On the other hand, given the presence of four or five fragments of 'coiled-rod' arm-ring in Cuerdale (as discussed above), one might have expected that it would also have contained an equivalent finger-ring (or its remnants). There are, however, only seven examples on record, including two of copper alloy; all are single-finds, with two (both of gold) being in the British Museum, as described and discussed below (C).

(A) Band-shaped finger-rings

Band-shaped finger-rings, although well represented in the Cuerdale hoard (**1:837, 978–86** and (?) **1,152**; see **Figs 2.3**, **5.15**, no. 54, and **5.16**, nos 68–9), are otherwise rare from both Britain and Ireland, although they are becoming increasingly common as single-finds in eastern England, as a result of metal-detecting activity. The one exception in this catalogue is the elaborately decorated gold example from Tundergarth, in south-west Scotland (**36**). As previously commented by Graham-Campbell (1995, 30, S9):

> This magnificent finger-ring is a scaled-down version of a type of gold arm-ring represented in the lost hoard from Hare Island, Co. Westmeath [**Fig. 1.4**], of late ninth/early tenth-century date.

Silver arm-rings of this type have been discussed above, as having 'sub-group (ii)' ornament (pp. 91–2). An extremely fine silver finger-ring, closed with a spiral-knot, is known from Theddlethorpe, Lincs (Leahy and Paterson 2001, 192, pl. 10.2; Leahy 2007, col. pl. 24); this variant, with its two rows of closely-packed (and highly distinctive) stamped decoration, is most probably of Gotlandic manufacture, being scaled down from Stenberger's 'Armbügel vom Typ Ab 5' (1958, 115, fig. 16; e.g. Graham-Campbell 1980, no. 237:6).[26]

One of the nine band-shaped finger-rings in the Cuerdale hoard (**1:978**) is of plain penannular form, cut in half, and is suggestive of a miniature 'bullion-ring' (cf. **1:664**; **Fig. 5.16**, no. 67; Sheehan above, pp. 87–8). This simple type of finger-ring is represented, in Scotland, by a penannular pair in the gold finger-ring hoard from Stenness, Orkney (Graham-Campbell 1995, 130–1, no. 27:1 and 4, pl. 50,b), and by an annular pair of silver in the Dibadale hoard, Isle of Lewis (*ibid*., 146–7, no. 31:4 and 5, pl. 68,a).

Eight of the other finger-rings from Cuerdale are complete, with six examples being annular in form. The most elaborate of these rings is closed with a spiral twist (**1:982**; **Fig. 5.16**, no. 69); it has three horizontal rows of stamped ornament, as have two others, which comprise a pair (in perfect condition), with their overlapping ends closed by simple twists (**1:984–5**; **Fig. 5.16**, no. 68).[27] The other three complete examples of annular band-shaped finger-ring are plain (and slight), with their ends

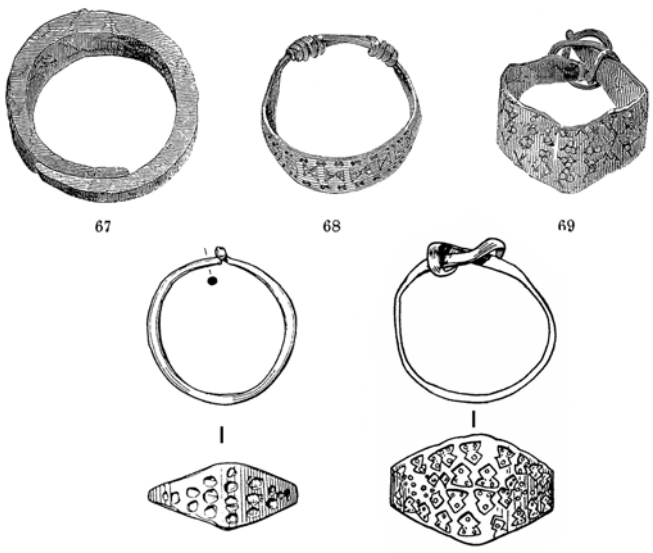


Figure 5.16 Silver 'bullion-ring' (no. 67) and two finger-rings (nos 68–9), from the Cuerdale hoard, with gold finger-rings from (left) Repton grave 529 (after Biddle and Kjølbye-Biddle), and (right), Thetford, Norfolk (after Rogerson and Dallas)

likewise simply twisted together (**1:837**, **983** and **986**). The first of these has been added to a rod arm-ring, as a weight-adjustment (**Fig. 5.15**, no. 54).[28]

The last complete finger-ring belonging to this group (**1:986**) is lost, although known from a nineteenth-century drawing (see p. 24; **Fig. 2.3**), but it is of particular interest in that it combines a band-formed (ovoid) bezel with a rod-shaped hoop.

Finger-rings with ovoid bezels have – until recently – been a poorly represented group of Anglo-Saxon rings, although characteristically decorated in the ninth-century Trewhiddle style. There is a copper-alloy example from Whitby Abbey, Yorks (Wilson 1964, 200, no. 130, pl. xl) and one of silver from Flixborough, Lincs (N. Rogers, in Evans and Loveluck (eds) 2009, 28, no. 203, fig.1,11). Numbers are, however, gradually being augmented by metal-detected finds, and such silver finger-rings are now recorded from Winterbourne Whitechurch, Dorset (*Treasure Annual Report 1988–1999*, no. 65), and Tibenham, Norfolk (*Treasure Annual Report 2003*, no. 109). The Cuerdale example presumably copies the Anglo-Saxon form, if left undecorated. An interesting comparison is, however, provided by a narrow-band silver finger-ring excavated, together with 'a twisted silver ring' and 'a decorated bead', at the neck of a young male skeleton in a grave at Ship Street Great, Dublin, with a radiocarbon date which has 'a 95% probability of dating to between AD 665 and AD 865' (Simpson 2004, 53–4, fig. 6); this plain finger-ring, which has only a slightly expanded front, is closed with a spiral twist (*ibid*., fig. 7).[29] A closer parallel is provided by a lost finger-ring from the Viking-age warrior burial at Donnybrook, Co. Dublin (Hall 1978; O'Brien 1992), illustrated in the original publication (Frazer 1888).

Three plain silver rings, including a finger-ring with twisted ends (*Treasure Annual Report 2004*, no. 90,1–3; but see Paterson, forthcoming), were found – together with seven beads – at the neck of a male skeleton in the small cemetery excavated, in 2004, at Cumwhitton, Cumbria (Newman, in Graham-Campbell and Philpott (eds) 2009, 21–3). The bezel of the Cumwhitton finger-ring is more lozenge-shaped than those of the Cuerdale and Dublin rings, relating it in both form and size to the decorated gold ring from Repton, to be discussed below.

The two remaining band-shaped finger-rings from Cuerdale are represented only by fragments, which differ in form from each other. One is a narrow flat band with a single row of stamped ornament; unfortunately, it is in two pieces with its ends missing (**1:979–80**). Its most obvious parallel (although made from a D-shaped rod) is the penannular silver finger-ring, with a single row of stamped ornament, excavated during the 1930s from the house-site at Westness, Rousay, Orkney (Graham-Campbell 1995, 161, S17, pl. 71,e–f).

The ends are also missing from the other Cuerdale fragment, which is a 'complex' band formed by soldering together two pairs of twisted wires, in herringbone fashion (**1:981**; **Cat. Fig. 19**). This is essentially the same ring-type that is represented by a gold fragment excavated from a pit, on 'Croft B', in the deserted medieval village of Goltho, Lincs, where occupation seems to have commenced in the eleventh century, although the latter version has the addition of two plain outer wires (Goodall, in Beresford 1975, 96, no. 43, fig. 45).

A more elaborate version of this uncommon ring-type, which doubles up on the form (and thus size) of the Goltho example, is provided by an unprovenanced gold ring, metal-detected in England (Mills 2001, 74–5, AS202). There is also a further variation known in silver (perhaps from Suffolk), with a more complex arrangement of its plain and twisted wires, which is now in the Ashmolean Museum, Oxford (AM: 1930.631).[30] An exceptional silver finger-ring found near Spofforth, North Yorks, in 2006 (*Treasure Annual Report 2005/6*, no. 218), has an elaborate combination of twisted and plain wires forming its band-shaped bezel, although the rest of its hoop consists of a single rod.

In advancing the suggestion that annular band-shaped finger-rings, with stamped ornament, may have been a relatively early, and perhaps short-lived, fashion in Britain and Ireland, it is important to recall that the gold finger-ring excavated from Grave 529 at Repton, Derbys, is a simple version of this type (**Fig. 5.16**), given that it is known to have been buried *c.* 874 (Biddle and Kjølbye-Biddle 1986, 24–6; 2001, 65, fig. 5,24), and that a stamped gold finger-ring fragment forms part of the assemblage of hack-gold and silver from the Danish winter-camp (of 872/3) at Torksey, Lincs (*Treasure Annual Report 2005/6*, no. 215). It is likewise tempting to associate the gold finger-ring of this type from Thetford, Norfolk (**Fig. 5.16**), with the winter-camp there of 869/70, but it was found in 1905 and lacks a context (Goodall in Rogerson and Dallas 1984, 68, no. 12, fig. 110). Finally, the description of the stamped decoration on the lost silver finger-ring from the Laxford, Suffolk, hoard (deposited *c.* 878?), indicates that it too will have been band-shaped (see above, p. 9).[31]

Another variant of these band-shaped finger-rings, with S-shaped stamped ornament, is now known in gold from both Britain and Ireland (Youngs 1998);[32] however, this is not represented in the British Museum, although there are the fragmentary examples of the related arm-rings of Group (a), considered above as sub-group (i). However, further finds of such rings are to be expected given the recent discovery of a lead 'trial-piece', impressed with just such an S-shaped stamp, amongst the metalworking assemblage from the site of the (872/3) winter-camp of the 'Great Army' at Torksey, Lincs.[33]

Finally, in this category, there is to be noted the recent find of a gold broad-band finger-ring at Nercwys, in North Wales, which is thick in section and decorated with plain vertical grooving (*Treasure Annual Report 2004*, no. 490). It is a substantial ring and its features suggest a direct connection with the Hiberno-Scandinavian tradition of broad-band arm-rings discussed above (cf. Sheehan 1990b).

(B) Single-rod finger-rings

Of the seven complete single-rod finger-rings in the Cuerdale hoard, four are made from plain tapered rods of circular cross-section. One of these is penannular, with tapered ends (**1:987**). Simple though it is, it has only three close parallels in hoards from Britain and Ireland: the silver finger-ring in the Ballaquayle hoard (**13:6**), deposited *c.* 970; a silver fragment in the Chester hoard (**Fig. 1.12**), deposited *c.* 965 (Webster 1953, no. 10);[34] and one of those in the Hebridean gold hoard, probably from North Uist (Graham-Campbell 1995, 128, no. 25:7, pl. 50,a).[35] In addition, the single penannular gold ring found near Thaxted, Essex (**31**), belongs to this group, as also

the late Scottish example in the St Blane's hoard, Bute, which was deposited during the 1150s (*ibid*., 165–6, U4, pl. 73,h).

The other single-rod finger-rings from Cuerdale are annular, one having its ends linked together with a pair of twists (**1:990**); the other two rings, which appear to have been made as a pair (**1:988–9**), are closed more simply by having their ends twisted together (both are in excellent condition).[36] More elaborate is the spiral-knot which closed the single-rod, finger-sized, ring threaded through the head of the silver ringed-pin in the lost silver hoard from Garron Point, Co. Antrim (**Fig. 6.11**).

Whereas the band-shaped finger-rings, with stamped decoration (as also the twisted- and plaited-rod rings to be discussed below), differ markedly from ninth-century Anglo-Saxon finger-rings (Wilson 1964, 56), there is some scope for chronological confusion in the case of single-finds of plain rod rings, with tightly twisted ends, given that such were in fashion amongst the Anglo-Saxons during the seventh century. A good example of the latter is the gold finger-ring illustrated by Baldwin Brown (1915, V, pl. cviii,3), from a male barrow-burial on Salisbury Race Course (Coombe Bissett), Wilts, most recently discussed by Meaney and Chadwick Hawkes (1970, 38) in the context of two related silver rings from Winnall II (Grave 10), Hants (*ibid*., fig. 9). Given the Coombe Bissett ring, the similar example from Ixworth, Suffolk, now in the Ashmolean Museum, Oxford (AM: 1930.629), has been excluded from the present listing of gold finger-rings of Viking character, despite it having been attributed to the tenth/eleventh century by Hinton (1978, 158, no. 47).[37]

In contrast, one can point to the single-rod gold finger-ring from the tenth-century Viking boat burial on the Île de Groix, off the coast of Brittany, but this has its ends separately coiled four or five times around the rod (Bjørn and Shetelig 1940, 112(t), fig. 74; Roesdahl and Wilson (eds) 1992, 322, no. 360). It is likewise relevant to draw attention again here to the pair of single-rod gold finger-rings from Great Wratting, Suffolk (**Fig. 1.14**), and that from Chichester, W. Sussex (**Fig. 1.15**).

The remaining complete single-rod ring of finger-ring size from Cuerdale is atypical in being twisted, but then so too is its use of a square-sectioned rod (**1:991**); however, given that it is penannular in form, it seems hardly likely that it was made to serve as a suspension- or attachment-ring. A fragment of similarly twisted, square-sectioned rod (**1:992**) is also included here as possibly having formed part of another such finger-ring. Square-sectioned rods were occasionally used in the manufacture of twisted-rod gold finger-rings, as discussed below (D).

There are, finally, two gold single-rod finger-rings with stamped decoration for mention, both of which are penannular in form: one of the two rings in the Soberton hoard, deposited *c.* 1068 (**7:2**); and a single-find from Harwich, Essex (**28**). The Soberton example has an unusual (pentagonal) section for a finger-ring, with two rows of ring-stamping. The latter ring is formed from a rod of D-shaped section, with a single row of stamped decoration, and as such brings to mind the silver finger-ring from Westness, Rousay, Orkney (Graham-Campbell 1995, 161, S17, pl. 71,e–f), already mentioned in connection with the narrow band finger-ring from the Cuerdale hoard (**1:979**). However, the ornament on the Harwich ring is unusual not only in being cast, but also because it was made using a curious variant on the standard opposed-triangle stamp (each containing pellets), with the stamp being concave sided and containing a vertical row of three pellets. It is thus imitative in both design and manufacture.

(C) Coiled-rod finger-rings

The gold finger-rings from Saddleworth, West Yorks (**30**), and from near Drogheda, in Ireland (**34**), represent two of the three extant examples of this group of rings manufactured in gold, by coiling a stamp-decorated rod, with the ends twisted together.[38] The third such gold ring is a recent metal-detected find from Maunby, North Yorks (*Portable Antiquities and Treasure Annual Report 2007*, no. 209). This is the most elaborate example in precious metal yet known, being a triple (rather than just a double) coil.[39] There are two examples of silver coiled-rod finger-rings on record, both from Ireland: one unprovenanced, and the other from Oldcastle, Co. Meath (Mulhall 1988, Class 2c).[40]

In addition, there are two such finger-rings known in copper alloy: from King's Ford, Islandbridge, Dublin, and Fishergate, York. The former is plain (Mulhall 1988, Class 2c), but the latter is the most complex of all, consisting of four coils, with an elaborately twisted terminal, incorporating a whorl; its D-shaped rod is decorated with transverse grooves (Rogers 1993, 1371–3 and 1478–9, no. 5416, figs 668–9). It was excavated from a Period 6a context at Fishergate, which represents the foundation of the Gilbertine Priory in 1195, but on a platform 'of imported earth' (*ibid*., 1215).

This group of finger-rings clearly represents a miniaturised version of the Hiberno-Scandinavian type of coiled-rod arm-ring discussed above (p. 104). According to John Sheehan (1992a; 1998a, 180), this type developed during the later ninth century and continued in use into the tenth, contemporary with the Hiberno-Scandinavian 'ribbon bracelets' (Sheehan 1998a, 180–1; see above, p. 92), of which a miniaturised version in gold was metal-detected at Sedbergh, Cumbria, in 2008.[41]

(D) Twisted-rod finger-rings

As explained in Chapter 1 (p. 2), all the Museum's medieval finger-rings from England made from twisted rods of gold or silver have been included here, even if of twelfth-century date (corresponding to the 'Late Norse' period in Scotland), given that they are of 'Viking character'. In any case, when found singly, such rings are not readily distinguishable from those of known Viking-age date.

An unusual object in the Cuerdale hoard, because subjected to heat (post-manufacture), is the terminal knot from a finger-ring formed from a pair of twisted rods (**1:994**). This is the only example in the hoard of the otherwise common enough finger-rings of this group, at least from the tenth century onwards. It is represented by four further examples in this catalogue (all complete), although these have the more usual linking rod or band, rather than a terminal knot.

The simplest of the three gold finger-rings belonging to this group is that from Balmer, E. Sussex (**26**), given that it is twisted from just a pair of rods, closed with a plain linking band. On the other hand, it is somewhat unusual in that its rods are square sectioned, but then so are those of a second gold finger-ring from E. Sussex, recently metal-detected near Bexhill (*Treasure Annual Report 2003*, no. 111, where Ager

suggests that such 'may be a local form').[42] A third gold finger-ring made with square-sectioned rods is on record from Moorgate Street in London (Murdoch 1991, 107, no. 189). In addition, square-sectioned rods were used for the simpler silver rings already noted from the Cuerdale hoard (**1:991–2**).

The other two twisted-rod finger-rings for consideration here are those from West Bergholt, Essex (**32**), and Weston Turville, Bucks (**33**). These are both twisted from a pair of thick tapering rods, of circular section, alternating in the twist with two pre-twisted strips or wires; the linking rod or band is plain in both cases.[43]

The distribution of this version of annular twisted-rod finger-ring has most recently been plotted by Wiechmann (1996, list 14, map 63). His map (with twenty-nine find-spots) demonstrates most clearly how widespread its use was during the Viking Age, even if his handlist needs augmenting with both these two, as well as some other, examples from England.

A twelfth-century coin hoard from Denmark (deposited after 1130), containing five gilt-bronze rings of this particular version (Skovmand 1942, 158, no. 22), may serve to introduce the remaining twisted-rod finger-ring in the British Museum: the simple 3-rod example, in silver, from the Lark Hill hoard (**5**), deposited *c.* 1175. Its twelfth-century deposition date is also matched by that of a 3-rod twisted gold finger-ring in the hoard from St Blane's, Bute (mentioned above for its single-rod ring), which was deposited during the 1150s (Graham-Campbell 1995, 166, U5, pl. 73,i).

An even later date of deposition (*c.* 1325) has, however, been proposed for a related silver-gilt finger-ring excavated from the floor of a building in the deserted medieval village of Hangleton, Sussex, together with late thirteenth/early fourteenth-century pottery, although the possibility of this having been 'a curio' was not ruled out by the excavator (Holden 1963, 174, fig. 38,18).[44]

The chronology of these twisted-rod finger-rings will be further considered below, together with that of the plaited-rod rings.

(E) Plaited-rod finger-rings

There remain for consideration four plaited-rod gold finger-rings, three of which are from England and one from Ireland, although this group is well known from other finds – and not only in Britain and Ireland. However, the detailed study of this material from England in particular (but also from Scandinavia) has for long been bedevilled by the failure on the part of some commentators to distinguish between those rings which are formed by means of twisting several rods together, as opposed to those which are truly plaited. Only once the properly plaited examples have been separated out from the twisted ones can their differing distribution patterns and chronological parameters be established. For example, it is immediately evident, from the material so far presented, that the earliest (and, indeed, only) plaited finger-ring, known from a coin-dated hoard in Britain, is that from Soberton (*c.* 1068), whereas there is a twisted-rod finger-ring fragment already present in the Cuerdale hoard (*c.* 905–10). At the same time, there is evidence for the use of twisted-rod finger-rings continuing well on into the twelfth century, and perhaps beyond, even if it seems clear that such were generally considered to be out of fashion by the period when the Brackley and Lark Hill hoards were deposited in the 1170s (Archibald and Cook 2001, 7–11; Cherry 1981, 60, nos 111–14; N. Stratford, in Zarnecki *et al.* (eds) 1984, no. 320).[45]

Few plaited-rod finger-rings have seemingly been found in Scandinavia, although there are plenty on record that are twisted (cf. Stenberger 1958, 137–8), including versions made in copper alloy, which include grave-finds.[46] Indeed, only two of the multi-rod finger-rings from Gotland illustrated by Stenberger are in fact plaited; both of these are 4-rod plaits, in gold, and are single-finds (1947, 86, no. 216, and 138, no. 338, pls 88–9). The finger-rings in a late tenth-century hoard from Hejslunds, Havdhem, to which he draws particular attention because it contains four examples (one gold and three silver), are all twisted (*ibid.*, 101–2, no. 256, pl. 250,28–9). A similar picture emerges from Norway, where there are four such twisted-rod gold finger-rings on record (Petersen 1928, 162, fig. 195; Grieg 1929, 231, no. 35, and 245, nos 76–7; Wiechmann 1996, map 63, nos 8–10),[47] but only one plaited (4-rod) gold finger-ring, a single-find from northern Norway (Sjövold 1974, 105, L 434, 234, pl. 47,e).

There is, however, a plaited-rod finger-ring known from a Viking-age hoard in southern Sweden: that from Äspinge, in Skåne, with a *tpq* for its deposition of 1047 (Hårdh 1976, 53, no. 71,4, pl. 38). On the other hand, the Äspinge hoard contains not only a tenth-century Anglo-Saxon strap-end, converted into a pendant (*ibid.*, no. 71,16), but also over 3,000 Anglo-Saxon coins (from Æthelred II to Edward the Confessor), amongst a total of more than 8,700. Given that the seven other finger-rings in this hoard are either formed from a single plain rod (*ibid.*, no. 71,5–7) or are band-shaped (*ibid.*, no. 71,8–11), it is reasonable to suggest that this (4-rod plait), as the most elaborate of the eight silver rings, might even represent a further part of its contents imported from England.[48]

In advance of a fuller consideration of the finger-ring material from Britain and Ireland, it should be noted that the four plaited-rod gold finger-rings in this catalogue comprise one 3-rod plait, from Hamsey/Ringmer, Sussex (**27**), and three 6-rod examples, two of which are from England, and one from Ireland: Soberton (**7:1**); Oxford (**29**); and Waterford (**35**). The most complex version of this ring-type (the 8-rod plait) is, therefore, not represented in this catalogue (and is apparently not known from Scandinavia), whereas there are four examples on record from Scandinavian Scotland, as well as one from the Greeba hoard (**Fig. 1.16**), in the Isle of Man (Cubbon 2003; Wilson 2008, 114, fig. 54).[49]

The evidence so far advanced by Graham-Campbell (1988a, 264–5; 1995, 55) suggests that the simplest form of plaited finger-ring (the 3-rod type) was being manufactured in Britain and Ireland during the tenth century, on the basis of excavated examples from York and Dublin. On the other hand, there is no evidence for the more complex versions having been produced before the eleventh century, when they appear to have been most in fashion. What seems, at present, to be the latest example of a plaited gold finger-ring (in this case, 4-rod) is that from a small hoard found on Iona, for which Graham-Campbell has proposed a twelfth-century date (1995, 166–7, U7, pl. 73,k). The fact that the Greeba (8-rod) gold ring is associated with a cast ring fragment decorated in the Irish version of the Ringerike style (**Fig. 1.16**; Wilson 2004; 2008, 114–15, fig. 54) provides added support to this chronological suggestion, as

does the existence of a small fragment of an (8-rod) gold finger-ring in the (1979) hoard from the grounds of St Ciarán's National School, at Clonmacnoise, Co. Offaly (Ó Floinn, in King (ed.) 1998, 123, ill. 6), which was deposited *c.* 1095, 'at the earliest' (Kenny, in King (ed.) 1998, 134).

Finally, it would appear that, whereas 3- and 4-rod plaited finger-rings could readily be manufactured in both silver and gold, only the softer metal was suitable for 6- and 8-rod plaits. It is possible, therefore, that the great number and greater complexity of gold finger-rings in the west, rather than in Scandinavia, may well relate, in part at any rate, to the differing amounts (and thus quality) of gold in circulation at the time.

Notes

1 For a more detailed survey of the 'bullion-rings' from Britain and Ireland, see Sheehan (2011).
2 The suggestion that a 'bullion-ring' formed part of the hoard from Ballyadams, Co. Laois (Sheehan 1998b, 155), is now withdrawn.
3 We are most grateful to Mark Blackburn for providing James Graham-Campbell with the opportunity to examine this small plain ring, of rectangular section, with overlapping sub-rectangular ends (D 1.8 x 1.4; H 0.6; W 0.3cm; Wt 6.4g), at the Fitzwilliam Museum (in January 2010), in advance of its full publication.
4 Graham-Campbell (1995, 30) has previously suggested that the type was a 'relatively short-lived development during the first half of the tenth century'.
5 A fragment of a 'Permian' ring, metal-detected from a 'S. Lincs productive site' was acquired by the Fitzwilliam Museum, Cambridge in 2008 (information from Mark Blackburn).
6 I am grateful to John Sheehan for drawing my attention to what is probably a fragment of another such terminal knob from Ireland, in the Dysart Island (no. 4) hoard, Co. Westmeath, deposited *c.* 910 (Ryan *et al*. 1984, 341–2, no. 111, pl. 9,6); however, see below, p. 131, note 18, for a possible alternative interpretation.
7 The hook-terminal illustrated by Hårdh (1996, fig. 12), as being from the Cuerdale hoard, is in fact the example (**12:3**) from the Ballacamaish neck-ring.
8 The maximum thickness (D 0.5cm) of one of the single fragments of twisted rod (**1:750**) suggests that this could also have formed part of a substantial neck-ring (as might a few other fragments in this category).
9 I am most grateful to Kevin Leahy for details of this find (pers. comm.).
10 Several arm-rings similar in form to Hiberno-Scandinavian broad-band arm-rings, though distinct in terms of their ornamentation and date, occur in Norwegian hoards. Like the Hiberno-Scandinavian type, these are normally penannular in form and made from broad bands of silver. They do not, however, feature pointed or sharply expanded central areas; in addition, the schemes of stamped decoration that ornament them are different from those typically found on Hiberno-Scandinavian rings (for instance, they neither exhibit the diagonal-cross motif nor the use of bar-stamps). Typically, they are ornamented with one or two longitudinally disposed rows of stamped triangles, with or without pellets, along both edges of their outer face. Frequently, they appear to be formed from poor quality silver. Examples occur in the hoards from: Rauan, Tjølling, Vestfold (Grieg 1929, 237); Helgelandsmoen, Hole, Buskerud (*ibid*., 211–12), the deposition of which has been coin-dated to 'after *c.* 1065' (Skaare 1976, 137); Foldøy, Jelsa, Rogaland (Grieg 1929, 221–3), deposited 'after 1051' (Skaare 1976, 150); and Brøholt, Røyken, Buskerud (Rygh 1885, 36, fig. 711), deposited 'after *c.* 1050' (Skaare 1976, 135–6). Rings of this type, while they may have been inspired by the Hiberno-Scandinavian form, are distinct in terms of their ornamentation and chronology and are most likely a local, post-950, Norse development.
11 LUHM-31000_1150; I am grateful to Professor Birgitta Hårdh for information concerning this find.
12 A convenient illustration of some part of the Grimestad hoard is that reproduced in both Jones (1968 and 1984, pl. 15) and Skre (2008, fig. 5.7), although it should be noted that the plain ball-type brooch terminal, at the centre of the photograph, does not in fact belong to this find.
13 NMI: W.69 (57) and 1906.177 (112).
14 NMI: 1893.12.
15 These arm-rings include a number of apparent single-finds as well as examples from the following hoards: Magheralagan, Co. Down; nr Athlone, Co. Westmeath; Co. Galway; Ireland no. 3; Carrowmore/Glentogher, Co. Donegal; Cushalogurt, Co. Mayo; Roosky, Co. Donegal; Red Wharf Bay, Anglesey; Huxley, Cheshire; and Cuerdale, Lancs.
16 I am grateful to Dr Gareth Williams for discussion on this point.
17 Fragments of stamp-decorated band arm-ring form part of the metal-detected assemblage from the North Yorks 'productive site' (*Portable Antiquities and Treasure Annual Report 2007*, no. 197,54–7).
18 This arm-ring forms part of the Assheton collection and was cleaned for Lady Clitheroe to wear to Westminster Abbey on the occasion of the coronation of Queen Elizabeth II (Lord Clitheroe: pers. comm.).
19 A silver penannular arm-ring, with a 5-rod plait and terminals in the form of stylised animal-heads (with stamped decoration), in the hoard from Kviende, Othem, Gotland, deposited *c.* 1050, represents a curious variant of this type of construction (Stenberger 1947, 165, no. 417:9, pl. 213; 1958, 278, fig. 57).
20 This discussion relates to the origins of the twisted/plaited gold rings in the late ninth-century Hoen hoard, from Norway, but key-finds in this connection are the silver hoards from Pöschendorf (Krinkberg), Schleswig-Holstein, with a *tpq* of *c.* 790/4 (Wiechmann 1996, 408–15, no. 31, pls 11–12), and that found in 1996 at Westerklief (no. 1), North Holland, with a deposition date of *c.* 850 (Besteman 2004a, 95, fig. 1, with refs).
21 I am grateful to Professor Birgit Arrhenius for this suggestion (pers. comm.).
22 In addition, there is a small fragment of a lozenge-sectioned silver arm-ring from Torksey, slightly flattened on the inside angle, which was acquired by the Fitzwilliam Museum in 2001 (information from Mark Blackburn; see now 2011, fig. 4).
23 This term replaces 'double armlet' as first used for this type of ring by Sheehan (1984), followed by Graham-Campbell (1987a, 339).
24 Two possible finger-ring fragments are catalogued amongst the Cuerdale 'Addenda': one plain narrow band (**1:1,152**), and one single rod (**1:1,153**). Since this catalogue was closed, the British Museum has acquired two further finger-rings of Viking character. The first, of silver, was metal-detected, in May 2001, at Bolton, East Yorks; it is an annular band-shaped ring, closed with a spiral knot, with two rows of stamped decoration (*Treasure Annual Report 2001*, 34, fig. 45). The second is a coiled-rod gold finger-ring, also from Yorkshire, as discussed below (p. 107).
25 The Viking-age finger-rings of Scandinavia have not been the subject of an individual study. Given that the Gotlandic finger-rings are not, for the most part, of particular relevance to the material from Britain and Ireland requiring discussion here, it is unfortunate that there are no overall accounts of the finger-rings from either Norway or Denmark.
26 Cf. the ornament on the gold finger-ring recently found in the Newark area, Notts (*Portable Antiquities and Treasure Annual Report 2007*, no. 204).
27 Hawkins chose to illustrate one of these finger-rings (1847, fig. 68), but both were apparently allocated to Assheton, presumably to keep them together; however, they subsequently became separated because one of them was amongst the Cuerdale material given by Assheton to Richardson – and so ended up in the Nelson collection, by way of Lord Grantley.
28 The annular band finger-ring of gold, from the Shanmullagh deposit, Co. Antrim (Bourke 1993, 24–5), is likewise plain (and slight in form), whereas that from the Liffey at Islandbridge, Co. Dublin (Bøe 1940, 105), has stamped ornament.
29 This lost copper-alloy ring, with its simple twisted ends and plain lozenge-shaped bezel, was found around a finger-bone(Frazer 1888, 51, fig. 6).
30 Taylor and Scarisbrick 1978, 45, no. 248; nothing is known concerning the find circumstances of this ring, which formed part of the Bateman collection when it was acquired by John Evans.
31 For further silver variants of annular band-shaped finger-rings, with stamped decoration, from England, see not only those cited

above in notes 20 and 22, but also two with pronounced lozenge-shaped bezels from East Anglia: one was found at Ixworth, Suffolk, in 1852, 'by a man engaged in hoeing a field of turnips' (*Journal of the British Archaeological Association* xi (1855), 80, pl. 6,2), now in the Ashmolean Museum (AM: 1930.633); the other, which has a central boss, was metal-detected 'in Norfolk' (Mills 2001, 75–6, V207).

32 From Kyre Park, Worcs; Rotherham, South Yorks; and the High Street excavations, Dublin; cf. the silver finger-ring recently metal-detected at Grindale, East Yorks (*Portable Antiquities and Treasure Annual Report 2007*, no. 210).

33 I am grateful to Mark Blackburn for information about this unpublished trial-piece (pers. comm., 2009; see now 2011, 242, fig. 11,b); however, Blackburn has published another lead trial-piece from Torksey, which has rows of a standard triangular punch, containing three pellets (2009, 48–9, fig. 4,1; 2011, 242, fig. 11,a).

34 This finger-ring terminal fragment is neither illustrated nor described by Webster (1953), but it comprises a plain rod of circular section tapering to a flat end (0.4–0.25cm).

35 It is, however, of interest to note that the silver hoard from Sandmúli, Iceland (Eldjárn 2000, 426, fig. 356; Roesdahl and Wilson (eds) 1992, no. 332), contains several plain single-rod finger-rings, given that it displays various connections with the Irish Sea region/Scandinavian Scotland (Graham-Campbell 2005, 134–5, fig. 6).

36 It is notable both how similar they are in size and in having only a single nick each.

37 All that is known of the find circumstances of this gold ring is that it was 'found at Ixworth a few days before the meeting' of the Suffolk Institute of Archaeology, held on 14 June 1849 (*Proceedings* i (1853), 85), 'by a man hoeing a field of beans' (*Journal of the British Archaeological Association* xi (1855), 80, pl. 6,3); it belonged to Joseph Warren, of Ixworth, whose collection was purchased by John Evans in 1866.

38 A simplified version of the 'coiled-rod' type of finger-ring (but likewise of gold) has been excavated at Workington, in Cumbria; information from Paul Flynn, via Caroline Paterson. It would have been classified here as a 'single-rod finger-ring', but has the characteristic row of stamped ornament and twisted closure of the more elaborate rings.

39 I am most grateful to the finder, Andrew Swan, for having brought this ring to my attention in the first instance; it has since been acquired by the British Museum through the Treasure process.

40 I am grateful to John Sheehan for bringing Isabella Mulhall's (1988) unpublished MA dissertation to my attention.

41 Examined at the British Museum during the Treasure process; the Sedbergh finger-ring is a simplified version of the illustrated gold arm-ring from the (destroyed) Hare Island hoard (**Fig. 1.4**).

42 This finger-ring is complete, although broken, with its ends having been hammered together into a plain plate (Hastings Museum).

43 This is the same method of construction as one of the latest gold finger-rings known from this group: that found in the choir of the bishop's church at Gardar, Greenland (Roesdahl and Wilson (eds) 1992, no. 343; Fitzhugh and Ward (eds) 2000, fig. 23.9); in this instance, however, the thin rods have not been pre-twisted.

44 According to microscopic examination by P. Ainsley (described in Holden 1963, 174), the Hangleton finger-ring was formed from two main rods alternating in the twist with two thinner ones, both of the latter having been formed by twisting together a pair of wires. This is a related form of construction to that used for the gold finger-rings from both West Bergholt, Essex (**32**), and Weston Turville, Bucks (**33**), as well as that from Gardar, in Greenland (see note 42, above). I am most grateful to Dr Gabor Thomas for having brought the Hangleton ring to my attention.

45 It is worth noting that a recent survey of the medieval finger-rings from Norway does not include any examples of this character (Hammervold 1997).

46 Examples are also known from Viking-age graves in Scandinavia (although not at Birka, Sweden), as well as from hoards and as single-finds: for Norway, see Petersen (1928, 162, fig. 195); for Denmark, see Brøndsted (1936, 82, no. 1, 87, no. 4, 95–6, no. 21, and 221), and Skovmand (1942, 173, 244, 252).

47 Wiechmann (1996, list 14, map 63) includes (no. 9) a ring from Tjora, Sola, Rogaland, as a subsequent find to those catalogued by Grieg (1929, nos 35 and 76), although he fails to list the second ring from the same location in Rogaland as no. 76 (*ibid*., no. 77).

48 Indeed, this is the only example of a plaited-rod finger-ring in any of the Viking-age hoards from southern Sweden catalogued by Hårdh (1976).

49 The four examples from Scandinavian Scotland comprise two and a half rings in the Hebridean (?North Uist) gold hoard (Graham-Campbell 1995, 127–8, no. 25:1–2 and 6, fig. 51,d and pl. 50,a), and a single-find from the small island of Fladda Chuinn, off the Isle of Skye (*ibid*., 154, S3, pl. 73,b).

CHAPTER 6

Classification and Discussion of the Objects Part 3: Brooches and Miscellaneous

Brooches, pins and buckles

The range of dress fasteners represented in this catalogue consists of silver brooches, pins and buckles. Comparative evidence suggests that some of the chain fragments from the Cuerdale hoard would probably have functioned in association with brooches and pins, but as such cannot be proven in their current state, they are treated here as ornaments, in their own right, in conjunction with pendants and beads.

Brooches

The brooches and fragments in this catalogue derive from five mixed or coinless hoards: Cuerdale, Flusco Pike (no. 1) and Goldsborough (all from northern England), Scattery Island (Ireland) and Ballaquayle (Isle of Man). Indeed, most of the brooches exist now only in the form of hack-silver, and it has not, therefore, been possible to arrive at a precise total for the number represented in two of these finds (notably Cuerdale). The brooches have been separated into four groups, according to whether they belong to the Irish brooch tradition (Group 1), the Scandinavian/Baltic tradition (Group 2), the Anglo-Saxon tradition (Group 3) or the Frankish tradition (Group 4).

Group 1: (a) Ball-type (including 'thistle-') brooches and fragments
(b) Bossed penannular brooches and terminal fragments
(c) Other penannular brooch fragments
(d) Pseudo-penannular brooch fragments
(e) Pin-heads and brooch-pin fragments
(f) Bosses and rivet (detached)
(g) Hoop and terminal fragments

Group 2: Knobbed penannular brooch fragment

Group 3: Circular brooch fragments

Group 4: Equal-armed brooch fragments, with filigree ornament.

Pins

Pins, other than those associated with the above brooch types, are represented in this catalogue only from the Cuerdale hoard, and then only in the form of hack-silver, with the one diagnostic variety being the trefoil-headed type of Norwegian origin (cf. **Fig. 6.10**).

Buckle(s)

The only functioning buckle in this catalogue is from the Cuerdale hoard, but this is atypical, consisting of an arm-ring combined with a cut-down pin from a 'thistle-brooch' (**Fig. 6.1**, no. 62), although there is also what had once been a Carolingian buckle (likewise from Cuerdale), but this lacks its tongue and was perhaps in secondary use as a pendant, together with a looped Carolingian belt-fitting (**Figs 6.18** and **7.8**), so that these are both considered together (below).

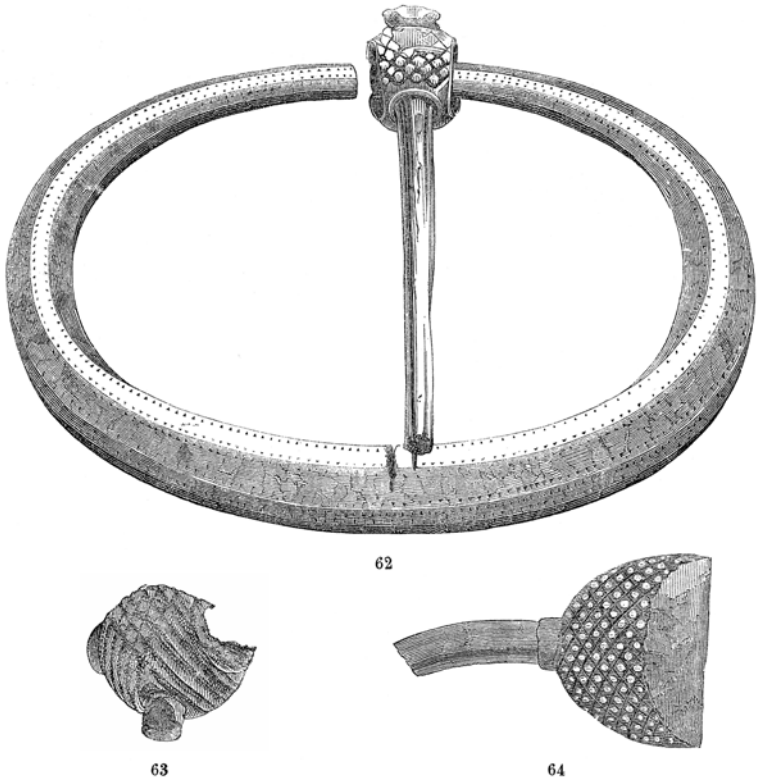


Figure 6.1 Silver buckle (no. 62), and 'thistle-brooch' fragments (nos 63–4), from the Cuerdale hoard

Brooches: Group 1 (Irish tradition)

Brooches of Viking-age date in the 'Irish tradition' (post *c.* 850) comprise mainly penannular brooches, of which the bossed and ball-types are the commonest, although some pseudo-penannular silver brooches are also represented in this catalogue (cf. Johnson 2001). Olaf Sverre Johansen's basic definition of a bossed penannular brooch is that it must have 'unconnected terminals decorated with metal bosses' (1973, 65), and Graham-Campbell has defined the ball-type brooch as simply being 'a penannular brooch with ball-shaped terminals' (1984, 32), with the variant 'thistle-brooch' having 'ball-shaped terminals that are wholly or partially covered with cross-hatched and/or punched ornament known as "brambling"' (1987b, 239–40).[1] 'Pseudo-penannular brooch' is the term used here, following David Wilson (1971, 83), specifically for the type of annular brooch that has well-defined terminals linked only by a single bar. Two such brooches of Irish workmanship constitute the small hoard from Scattery Island, with others in the Irish tradition forming an important component in the Cuerdale, Flusco Pike (no. 1), Goldsborough and Ballaquayle hoards, with Cuerdale being dominant as usual in the number and variety represented, in the form of hack-silver. For once, however, it is overshadowed in importance by virtue of the fact that the Flusco Pike (no. 1) silver hoard consisted exclusively of seven penannular brooches, which may well have all been complete on deposition (with a possible eighth).

The relevant penannular and pseudo-penannular brooches for consideration here consist of the following examples; however, it should be noted that there are also five silver penannular brooches from Ireland in the British Museum, all of which are single-finds (those listed in Chapter 1, among the 'exclusions').[2]

(A) Ball-type (including 'thistle-') brooches (total: 16)

Cuerdale (**1**):	8 (fragments)
Flusco Pike, no. 1 (**2**):	4
Goldsborough (**3**):	2 (1; and 1 fragment)
Ballaquayle (**13**):	2 (pin-head fragments; also 1 pin-shaft, below)

(B) Bossed penannular brooches (total: 18)

Cuerdale (**1**):	13 (fragments)
Flusco Pike, no. 1 (**2**):	3
Goldsborough (**3**):	2 (fragments)

(C) Other penannular brooches (total: 2)

Cuerdale (**1**):	2 (both hoops; 1 in two fragments)

(D) Pseudo-penannular brooches (total: 5)

Cuerdale (**1**):	2 (fragments)
Goldsborough (**3**):	1 (fragment)
Scattery Island (**10**):	2 (pins missing)

(E) Pin-heads and brooch-pin fragments (total: 14)

Cuerdale (**1**):	13 (7 pin-head and 6 pin-shaft)
Ballaquayle (**13**):	1 (pin-shaft)

[NB: the separate pin-head and pin fragment in Flusco Pike (no. 1) are attributed to one of the two bossed penannular bosses with missing pins.]

(F) Bosses and rivet (detached) (total: 5)

Cuerdale (**1**):	4 (3 bosses and 1 rivet)
Flusco Pike, no. 1 (**2**):	1 (boss) [with 2 other detached bosses attributed to brooches]

(G) Hoop and terminal fragments (total: 15)

Cuerdale (**1**):	15 (12 hoop and 3 terminal).

(A) Ball-type (including 'thistle-') brooches

It is most convenient to begin discussion of the sixteen ball-type penannular brooches and fragments with the, chronologically separate, Goldsborough (*c.* 925) and Ballaquayle (*c.* 970) hoards, given the basic development in the sequence from the small silver 'thistle-brooch', with solid terminals, to greatly enlarged versions, with hollow-cast terminals (Graham-Campbell 1983b, 310–12).[3] These either elaborate on the 'thistle-brooch' tradition, or are plain, or are ornamented – as is the case with some of the brooches in the Skaill, Orkney, hoard (**Fig. 1.3**) – in the Mammen style of Viking art (Graham-Campbell 1995, 34–6, 41–6). It has been suggested, therefore, that, whereas the 'thistle-brooch' was developed by Irish silversmiths during the late ninth-century period of experimentation with penannular brooch types (cf. the pseudo-penannular brooch from Scattery Island (**10:2**), discussed below), its development and elaboration during the tenth century was the result of Scandinavian adoption of this fashion, when it certainly spread to Norway and then to central Sweden (Graham-Campbell 1983b, 310–12; 1984, 31–2; 1987b, 238–42; 2007; Johnson 2001, 331–41).

The Ballaquayle hoard contains the complete pin-head from a late variety of 'thistle brooch', with integral pin (**13:7**); its overall form, but more particularly the ornament on its reverse, is closely paralleled by a pin-head in the Skaill hoard (Graham-Campbell 1995, no. 24:113), as also is the ball-type pin-head fragment, with its plain obverse and flattened reverse incised with a hexafoil (**13:9**). The complete socketed pin-shaft from Ballaquayle (see section (e), below p. 117) is a type associated with the largest ball-type brooches, as in the Flusco Pike hoard (**2:1**), but it likewise has a close counterpart in the Skaill hoard (*ibid*., no. 24:1).

The Goldsborough hoard, on the other hand, contains a complete 'thistle-brooch' (**3:1**); its small size and solid terminals are characteristic of the earliest such brooches. It is similar in size and decoration to the only copper-alloy version of a 'thistle-brooch' to have been found in Britain or Ireland – a single-find from near Kinlochleven, Argyll (Graham-Campbell 1983c). In addition, the 'thistle-brooch' terminal fragment from Goldsborough is also of the same solid variety (**3:3**). Goldsborough (*c.* 925) is the latest coin-dated hoard in which this initial version of the 'thistle-brooch' is present, whether complete or fragmentary.

The gap of forty-five years between the deposition of the Goldsborough and Ballaquayle hoards points to the chronological range of the developed ball-type brooch, backed up by the evidence of other hoards. It is clear that the initial variety remained in circulation during the opening decades of the tenth century, whereas the later versions, such as the seventeen (both complete and fragmentary) in the Skaill hoard (**Fig. 1.3**), deposited *c.* 960–80 (Graham-Campbell 1995, 34–6), were circulating in Britain and Ireland only as hack-silver by

about 970, as represented by the few fragments in the Chester hoard (**Fig. 1.12**), which was deposited *c.* 965 (Webster 1953).

The earlier Cuerdale hoard (*c.* 905–10) contains six fragments of the initial version, none of which appears to be exceptional in any way, although it is of interest that there is one possible plain terminal (**1:998**), alongside the two brambled examples (**1:999–1,000**; **Fig. 6.1**, no. 64), because only one complete silver ball-type brooch, with plain solid terminals, is known – and that is a single-find from Norway (Grieg 1929, 256, no. 106; Petersen 1928, 174). It may be, however, that the three plain fragments from Cuerdale – from two pin-heads (**1:996–7**), in addition to the one terminal[4] – derive from the reverses of simple 'thistle-brooches', as represented in the hoard by both the pin-head re-used to form a buckle (**1:1,062**; **Fig. 6.1**, no. 62) and that attached to the 'Cuerdale seal' (**1:1,001**). These are closely paralleled on a complete 'thistle-brooch' from Norway (Grieg 1929, 177, fig. 209), as well as by a pin-head fragment in a southern Swedish hoard, with a *terminus post quem* of 955 for its deposition.[5]

The remaining Cuerdale fragment (**1:995**; **Fig. 6.1**, no. 63) is part of a fully hollow-cast pin-head from a 'thistle-brooch', making it the earliest coin-dated example of this development; but then the Dysart (no. 4) hoard, Co. Westmeath, deposited *c.* 910, contains a hollow-cast terminal fragment from another such brooch (Ryan *et al*. 1984, 340, no. 87, pl. 9,23), alongside a pin-head fragment from a bossed penannular brooch (*ibid*., no. 85, pl. 9,27).

Such, then, is the basic typological and chronological framework within which the four ball-type brooches in the Flusco Pike (no. 1) hoard are to be considered (**2:1–3** and **5**). The fact that two of its ball-type brooches (**2:1–2**) are the largest complete (or near complete) examples in existence points to a date towards the mid-tenth century for their manufacture, by analogy with the size and elaboration of some of the Skaill brooches, as well as the Ballaquayle fragments. Although similar in size and proportion, these two large brooches differ technically and stylistically, with that from 'near Penrith' (**2:2**) being the closer of the two to the Skaill series. The two lesser 'thistle-brooches' from Flusco Pike (**2:3** and **5**) could be said to bridge the gap between these examples and the early type represented in both the Cuerdale and Goldsborough hoards.[6] Of these two, however, it is the brooch with solid terminals (**2:3**) which shows the most wear – so that, overall, the evidence of the ball-type brooches is suggestive of the Flusco Pike (no. 1) hoard having been deposited during the second quarter of the tenth century. It is, therefore, of particular interest that the deposition of the mixed silver hoard, Flusco Pike (no. 2), metal-detected in 2005 from its general vicinity, has been coin-dated to *c.* 925 (*Treasure Annual Report 2005/6*, no. 310), given that, amongst its hack-silver content, there is part of the terminal of a substantial ball-type brooch, together with a hoop fragment (*ibid*., no. 310, 11–12) of a size to match those of the two largest Flusco Pike (no. 1) brooches (**2:1–2**).[7]

(B) Bossed penannular brooches

Johansen's (1973) classification of bossed penannular brooches into 'Subgroups A–G' has been generally accepted, with only minor modifications (Graham-Campbell 1975), including the addition of a 'miscellaneous' category to embrace certain of the Cuerdale fragments that 'do not possess sufficient attributes to allow them to be assigned unequivocally to subgroups' (*ibid*., 36); for example, his scheme readily accommodates the three recent additions to the corpus from the Flusco Pike (no. 1) hoard. Their major characteristics, in addition to being penannular in form and having prominent bosses as the essential feature of the decoration of their terminals (from one to five each), may be summarised as follows (after Johansen 1973, and Graham-Campbell 1975):

Sub-group A

These brooches 'have sub-triangular terminals divided into panels by engraved ribbons' (e.g. **Fig. 1.9** = brooch A11; **Fig. 1.20** = A2; and **Fig. 6.2**, no. 94 = A4).

Sub-group B

These brooches 'have sub-rhombic terminals and no surface-covering pellet pattern on the terminals' (e.g. **2:4**).

Sub-group C/D

These brooches have sub-triangular or sub-circular terminals with 'the outer margin formed by a single extended animal' (e.g. **Fig. 6.2**, no. 88 = brooch C3).

Sub-group E

These brooches have sub-rhombic, sub-triangular or sub-circular terminals with 'more than half of the terminal surface occupied by a pellet pattern' (e.g. **1:1,013**).

Sub-group F

These brooches 'have sub-triangular terminals carrying bosses with filigree ornaments' (e.g. **Fig. 6.4** = brooches F2 and 3).

Sub-groups G and H

These two sub-groups consist of only one bossed penannular brooch each and are not represented in this catalogue.

'Miscellaneous'

The remaining fragments of bossed penannular brooch, which are too small to be allocated with confidence to any of the above sub-groups.

Since the 1970s, at any rate, there has been a general measure of agreement that bossed penannular brooches were developed by Irish silversmiths under some influence from contemporary Anglo-Saxon disc brooches and other such silverwork in the Trewhiddle style (following Wilson 1958), during the same late ninth-century period of experimentation that produced the early 'thistle-brooch' (Ó Floinn 1989, 89–90; Ryan, in Youngs (ed.) 1989, nos 82 and 89; Johnson 2001, 327–31). Indeed, the distribution of bossed penannular brooches has suggested to Ó Floinn that the type originated in the north of Ireland, with the revival there of the penannular form being 'probably because of the close connections with Scotland where it had never gone out of fashion' (1989, 89).

It is evident that the bossed penannular brooch became a sufficiently well-established fashion not only to have been adopted for wear by Scandinavians, but also for variation by them (e.g. Johansen's 'Sub-group F'; **Fig. 6.4**), although not to the same extent as with the ball-type brooch, which is presumably the explanation for them having had a shorter chronology, given that they seemingly ceased to be made well before the mid-tenth century. There has, however, been an

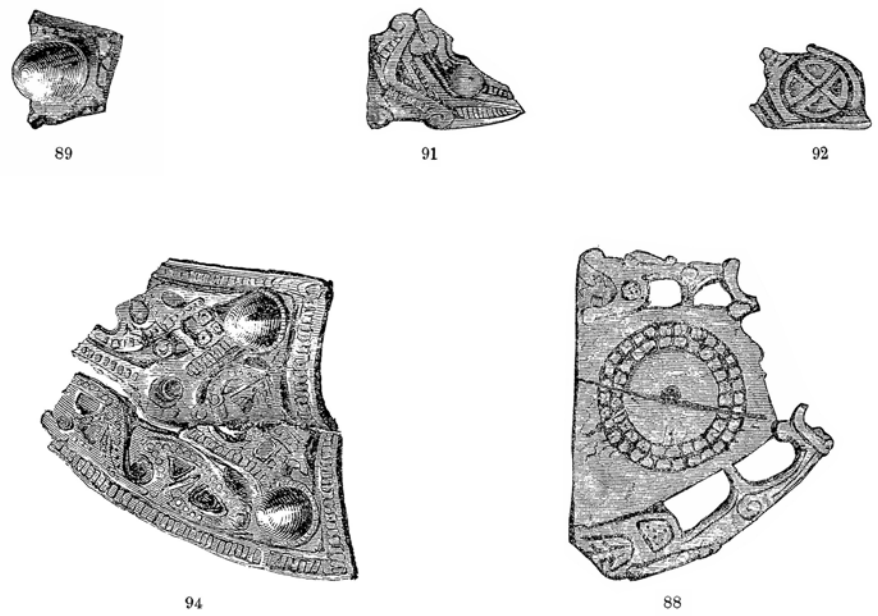


Figure 6.2 Silver bossed brooch fragments (nos 88–9, 91–2 and 94), from the Cuerdale hoard

attempt made by Michelli (1993) not only to revive the hypothesis that bossed penannular brooches were initiated under Scandinavian influence, but also to suggest that they display elements of the Borre, Jellinge and Mammen styles of Viking art. However, her paper contains numerous errors in the description of the brooches, of both a technical nature and with respect to their ornament, and introduces some debatable stylistic comparisons. There is little to be gained in considering it further here, for its arguments are far from persuasive (see now also, Johnson 2001, 328–31).

The classifiable bossed penannular brooches and fragments in this catalogue are from the three early tenth-century hoards from northern England: Cuerdale, Flusco Pike (no. 1) and Goldsborough (although the complete brooch in the Orton Scar hoard (brooch A11; **Fig. 1.9**) is also relevant to this discussion). Together they represent all the main variants (A–F) identified by Johansen (1973), for both his 'Subgroup G' (*ibid*., 86, 122) and Graham-Campbell's additional 'Subgroup H' (1975, 35–6, 47) consist only of a single specimen each.

Brooches of 'Subgroup A' are defined by Johansen as having 'sub-triangular panels divided into panels by engraved ribbons' and form the largest of the subgroups (cf. brooch A2; **Fig. 1.20**). It is not surprising, therefore, that it is the most numerous type in this catalogue, with two damaged brooches from the Flusco Pike (no. 1) hoard (**2:6** and **7**), six definite examples – represented by seven fragments – from Cuerdale (**1:1,002–8**), and one from Goldsborough (**3:5** = brooch A17f).[8] All the Cuerdale fragments, which are definitely from A-brooches, have been fully discussed by Johansen (1973), being those identified by him as: A4 (in two pieces; **Fig. 6.2**, no. 94); A10; A17a (**Fig. 6.2**, no. 89); A17e (**Fig. 6.2**, no. 91); A17g; and A17h (**Fig. 6.2**, no. 92).

It is of particular interest, as first noted by Edwards (1998, 36), that one of the Flusco Pike brooches (**2:7**) is 'a unique example of the type' in that the bands dividing the terminal into fields, for the characteristic zoomorphic decoration, do not link the bosses as normal (e.g. **Fig. 1.20** and brooch **2:6**), but extend from the central boss to the edges (**Fig. 6.3**). However, despite its 'unique' design, it is reasonably certain that this brooch is from the same hand, or workshop (at least), as Johansen's brooch A7, which is provenanced only to 'Ireland'. These two brooches have several stylistic and technical elements in common, including the use of Johansen's Type 2 bosses (with integral rivets and separate beaded collars). Although the fields on the terminals are differently organised, they both utilise an arrangement of four bosses and, in both cases also, they are surrounded by a beaded border, which is distinctive in having plain L-shaped panels at the outer angles, together with the unusual incorporation into it of a profile animal/bird-head (with closed jaws/beak), at the junction with the hoop (as present also on brooch A3, from near Ballymoney, Co. Antrim). The treatment of the stylised animals and birds is the same on both brooches, including the beading of their bodies and the speckling of the heads of the largest animals. On the other hand, the treatment of the open-jawed animal head at the junction of hoop and terminal on the Flusco Pike brooch is original, being unusual in displaying both fangs and a row of teeth, coming closest in design to that on Johansen brooch A9 (from near Virginia, Co. Cavan). Finally, it remains to note that the separate pin-head in the Flusco Pike hoard (**2:10**) is of the same type as that on brooch A7 and so may tentatively be assigned to this A-brooch (**2:7**), rather than to **2:6**.

Figure 6.3 Terminal fragment of a silver bossed penannular brooch (**2:7**), from the Flusco Pike (no. 1) hoard, Cumbria (B.J.N. Edwards)

In comparison with the fine design and workmanship displayed by these two brooches, the other A-brooch from Flusco Pike (**2:6**) is crudely conceived, if well finished. The zoomorphic ornament, which has billeted bodies, has become stylised to the point at which the creatures have lost their identities – and the animal head at the junction of hoop and terminal is very confused. The terminals employ the simplified Type 3 boss (with integral beaded collar, but separate rivets). The particular treatment of its border, alternating plain and billeted panels – combined with the 5-boss design – brings this brooch closest to Johansen's brooch A13 (from Ballyspellan, Co. Kilkenny), but the Flusco Pike brooch is to be regarded as one stage further devolved, if from the same workshop. In this context, it is of interest to note that the particular form of the Flusco Pike pin-shaft fragment (**2:8**) is one that is uncommon on A-brooches, but is the same as that used on the Ballyspellan brooch (A13), on which basis it may tentatively be assigned to this brooch (rather than to **2:7**, described above).

Brooches of 'Subgroup B' are defined by Johansen as having 'sub-rhombic terminals and no surface covering pellet pattern on the terminals'. The third bossed brooch in the Flusco Pike (no. 1) hoard (**2:4**) is an important addition to this sub-group and is additionally significant for being secondarily incised with Norse runes on its reverse (**Cat. Fig. 32**). These include a *fuþark* (if not quite complete), which utilises an *h* rune of a type not found anywhere else in Britain and Ireland other than the Isle of Man (Barnes and Page 2006, 331–3). 'Subgroup B' is also represented here by two fragments from the Cuerdale hoard (**1:1,009–10**), one of which (**1:1,009** = brooch B5) is included by reference to the larger brooch fragment (B3) in the hoard from Sandmúli, Iceland (Eldjárn 2000, 426, fig. 356; Roesdahl and Wilson (eds) 1992, no. 332; Graham-Campbell 2005, 134–5, fig. 6);[9] the other Cuerdale fragment (**1:1,010**) is that originally classified by Johansen as brooch A17d.[10] The Sandmúli fragment is also a most apposite parallel for Flusco Pike brooch (**2:4**) because of the zoomorphic sketch on its reverse, which has tenth-century parallels on Manx sculpture, as also a piece of carved wood from Dublin (Graham-Campbell 1995, 43, fig. 22; O'Meadhra 1987, 116–17, fig. 79).

Flusco Pike brooch (**2:4**) introduces the need to mention the few other Norse runic inscriptions known to have been added to silver brooches and rings in Britain and Ireland. The most important is that cut on the reverse of the well-known Hunterston, Ayrshire, brooch, of eighth-century Insular manufacture, together with some rune-like graffiti (Spearman and Ryan, in Youngs (ed.) 1989, no. 69; Graham-Campbell 1995, 5, fig. 6). The inscription is considered in detail by Barnes and Page (2006, 217–21, SC 2, fig. 31, pls 49–51), who offer two alternative readings, although that which 'has been the favoured one hitherto' is *Malbriþa á stilk* 'Malbriþa owns (this) brooch', with Malbriþa seeming to be a Norse-speaking rune-carver's attempt at the Celtic name, *Máel Brigte* 'Servant (of) Brigid'. Barnes and Page conclude (*ibid*., 221):

> Neither language nor rune forms allow a close dating of the Hunterston inscription. The runes are of simpler type…[and] as such they agree with the *fuþark* of the ninth-/tenth-century Penrith brooch [= Flusco Pike **2:4**] (which, like Hunterston, has stylistic links with the Irish Sea region); and with the selection of runes used on many of the Manx rune stones…

In addition, there is a plain Hiberno-Scandinavian broad-band arm-ring, from a small coinless hoard found at Roosky, Co. Donegal, which is incised with the single runic letter *r*, as well as a possible second rune (Barnes *et al*. 1997, 59–61, IR 15, fig. 19, pls xxx–xxxi). It is also of interest to note that the bossed penannular brooch from Ballyspellan, Co. Kilkenny (A13), has four names scratched on its otherwise plain back in Irish ogham script (Ryan, in Youngs (ed.) 1989, no. 89).

Brooches of 'Subgroup C' are defined by Johansen as having 'sub-triangular terminals, at the narrow ends of which are carved out zoomorphic heads seen from above', and brooches of 'Subgroup D' as having 'sub-circular terminals'. Graham-Campbell, on the other hand, proposed combining these two sub-groups (1975, 35), as C/D-brooches (of which there are six in all), on the basis that their most distinctive feature, within the group as a whole, is that the outer margin of the terminals is 'formed by a single extended animal', as on the brooch hoop in the Goldsborough hoard (**3:2**). One terminal fragment from Cuerdale (**1:1,011**) has been classified by Johansen as brooch C3 (**Fig. 6.2**, no. 88); however, it is suggested here that a second terminal fragment from Cuerdale (**1:1,012**) should also be allocated to this sub-group (previously brooch B5b).[11]

Brooches of 'Subgroup E' are defined by Johansen as having 'sub-triangular or sub-rhombic terminals, with more than half of the terminal surface occupied by a pellet pattern', but, in order to accommodate a sub-circular terminal fragment from Cuerdale (**1:1,013**) into this scheme (as brooch E4), Graham-Campbell proposed widening this definition to include brooches with any shape of terminal 'which have more than half the surface occupied by a pellet pattern' (1975, 35).

Brooches of 'Subgroup F' are defined by Johansen as having 'sub-triangular terminals carrying bosses with filigree ornaments'; however, they also display a range of other attributes that set them even further apart from the brooches of sub-groups A–E. These include a distinctive hoop-section, distinctive pin-types, both with stamped ornament, and the use of filigree decoration on the terminal plates.

The Cuerdale terminal fragment, classified as brooch F3 (**1:1,015**; **Fig. 6.4**, no. 98), is a fresh version of the worn, but complete, brooch (F2) in the hoard from Hatteberg, Hordaland,

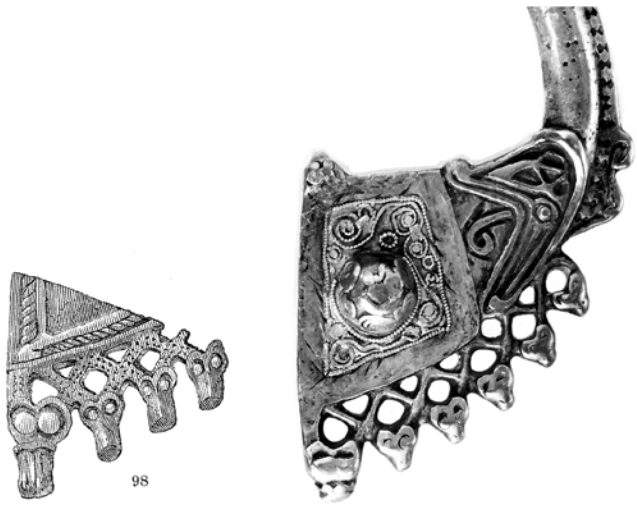


Figure 6.4 Terminal fragment of a silver bossed penannular brooch, of 'Sub-group F', from the Cuerdale hoard (no. 98), with a detail of the similar brooch (F2) from the Hatteberg hoard, Hordaland, Norway

Norway (**Fig. 6.4**; Bøe 1934; Graham-Campbell 1980, no. 194). As previously pointed out, 'the openwork fringe [of F3] is ornamented with an opposed-triangle stamp, similar to that used on the hoop of F2 and the borders of F1' (Graham-Campbell 1975, 47). It has, however, also been suggested that an openwork zoomorphic fragment (**Cat. Fig. 23**) in the Cuerdale hoard (**1:1,014**) derives from the variety of F-brooch represented by brooch F1, from Rathlin Island, Co. Antrim (*ibid*., 40; Bourke, forthcoming).[12]

Two main types of boss were used on these brooch terminals, either solid or hollow (Johansen 1973, fig. 7, Types 2 and 3).[13] Those known to Johansen were all domed, but one of three detached (solid) bosses in the Cuerdale hoard is flat-topped (**1:1,035**).

The distinctive hoop-section of the Rathlin and Hatteberg brooches is provided by the fact that the outer edge of the basic D-shape is extended to form a low decorative border (Johansen 1973, 66, fig. 3, Type 2). A yet-to-be fully published silver hoard from Ballywillan crannog in Lough Kinale, Co. Longford (O'Sullivan 1998, 140; Ó Floinn 1998a, 158, fig. 5.8; Graham-Campbell and Sheehan 2009, 85, fig. 6), contains one such hoop fragment, together with a fragment of a unique hoop/terminal junction, as well as a piece of a 'thistle-brooch' terminal.[14]

There are ten hoop fragments catalogued here, all from the Cuerdale hoard, which are believed to derive from bossed penannular brooches (subgroups A–E) because of their sub-triangular/D-shaped sections, which contrast with the rods of circular cross-section characteristic of ball-type brooches (above), and with the ovoid section seemingly favoured for pseudo-penannular brooches (see below).

Johansen classified the pin-heads of the majority of the bossed penannular brooches into three types by cross-section, although 'five brooches have pinheads with bar cross sections which do not fit any of these types and exhibit considerable variation among themselves' (1973, 79, fig. 22). One of these is the pin-head of the Hatteberg brooch, which is of the same type, with stamped decoration, as that used for the penannular brooches of Stenberger's 'Ring-pin Type 1' (discussed below, p. 119). Two of the other pin-heads share the characteristics of having rows of stamped decoration of Viking character and being fastened with a boss-headed rivet (Orton Scar and Rathlin). The Orton Scar pin-head (**Fig. 1.9**) is extremely close to that of the Flusco Pike B-brooch (**2:4**), and it would appear that both brooches were fitted with replacement pins during their period of use by their Scandinavian owners. The Rathlin pin-head also has three grooves to hold twisted wires (traces of which survive), and it is evident that one of the Cuerdale pin-head fragments (**1:1,021**), which likewise has three grooves and associated perforations, would have been embellished in the same manner (Graham-Campbell 1975, 40). On the other hand, the pin-head that presumably belonged to one or other of the two A-brooches in the Flusco Pike hoard (**2:10**) is an example of Johansen's Type 2.

(C) Other penannular brooch fragments

The pair of so-called 'rough-outs' from the Cuerdale hoard (**1:1,017-18**; see **Fig. 6.5**, no. 87, for one of the fragments) can be reconstructed together to form a penannular brooch of unparalleled form (as in **Fig. 6.5**), although such could doubtless have been worked into something more recognisable – presumably a bossed brooch, given that almost all of them (other than the F-brooches) appear to have been hammered and engraved.[15]

In addition, there is a complete penannular ring/hoop in the Cuerdale hoard (bent out of shape), with terminals in the form of highly stylised animal heads in profile (**1:1,016**; **Fig. 6.6**, no. 56). Hawkins, while describing this amongst arm-rings (1847, 123, fig. 56), was aware that 'such a termination to an armlet of the tenth century is extremely rare, if not unique' and, with considerable perspicacity, suggested that:

> It is very probable that this piece was made by the same people who made the ornaments fig. 91 [**Fig. 6.2**], as the animal form is common to both, and the workmanship about the teeth is similar.

In the case of those few penannular arm-rings with animal-head terminals, the heads are fully modelled rather than flat and in profile (cf. Sheehan 1990a), and so it may be suggested instead that this is a unique form of Irish penannular brooch. Its pin-type is, of course, unknown, but then some of the probable pin-heads in the Cuerdale hoard, discussed in section (e) below, are themselves without immediate parallel.

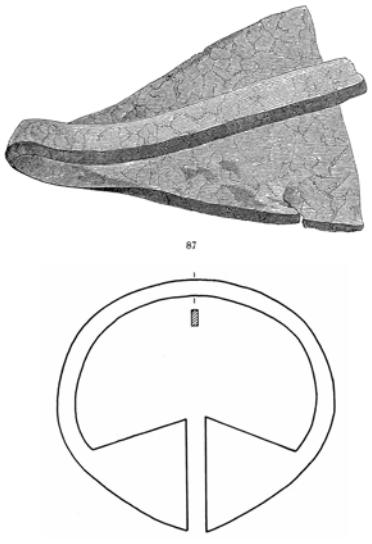


Figure 6.5 One of a pair of fragments (no. 87) from a 'rough-out' for a silver penannular brooch, from the Cuerdale hoard, with a reconstruction

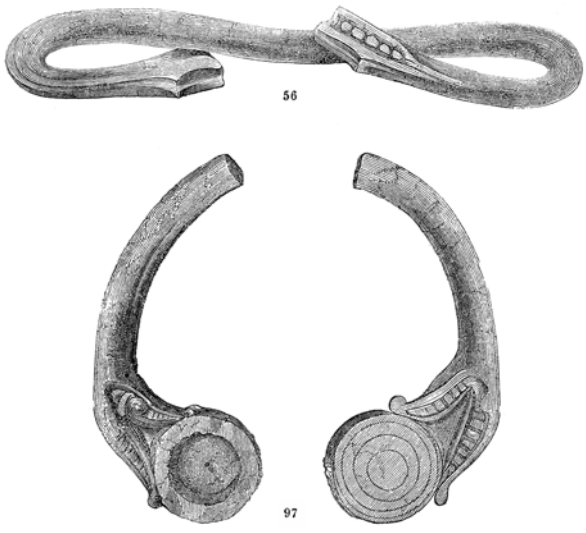


Figure 6.6 Silver penannular brooch (no. 56) and a pseudo-penannular brooch fragment (no. 97), from the Cuerdale hoard

Figure 6.7 Silver pseudo-penannular brooches of Irish workmanship (**10**), from Scattery Island, Co. Clare (after Westropp: from Chatterton 1839)

(D) Pseudo-penannular brooches

There is no complete example of a pseudo-penannular brooch in this catalogue because those that constitute the hoard from Scattery Island, Co. Clare (**10**), are both lacking their pins. The typological and stylistic affinities of these two small brooches (**Fig. 6.7**) have been discussed in detail by Graham-Campbell, who assigned them to a date in the mid- to late ninth century (1972, 117–21). The brooch with the empty circular settings and marginal animals (**10:1**) is closely paralleled by another such silver brooch, of similar size, also in the British Museum (MME: 1893,0618.25), which is from Co. Donegal (Smith 1914, pl. xxvi,1; Graham-Campbell 1972, 117–19, pl. 19,b–c, and not 'a–b', as captioned). The latter has a zoomorphic motif on the reverse of its terminals, displaying Anglo-Carolingian influence, whereas the bird on the brooch from Scattery Island has been likened to that on the reverse of an Irish pseudo-penannular brooch from a Viking-age grave in Norway (*ibid*., 119–20, pl. 20,a).[16] It is of interest to note, in the context of this brooch forming part of a Viking-type bullion hoard, that it had already undergone modification before its deposition (in addition to the removal of its pin), because its linking bar has been cut through at one end and the outer corners of its terminals cut away (with the latter intervention possibly having served a similar purpose to the two nicks on the hoop of **10:2**).

The second of the two pseudo-penannular brooches from Scattery Island (**10:2**) is considered to mark 'an important stage in the development of new native Irish styles in silver that culminated in the massive bossed and thistle brooches of the late ninth and tenth centuries' (Youngs, in Youngs (ed.) 1989, 103). Of particular significance in this respect is the near-spherical pin-head, cast around the hoop, in the manner of the earliest 'thistle-brooches' (see above, pp. 112–13); indeed, the tenon might well be considered to be a precocious innovation, anticipating this manner of attaching the pin-shaft on some of the tenth-century ball-type brooches (cf. pin-shaft **13:8**). The obscure motif on the inner margins of its terminals is here identified as zoomorphic, for the first time (p. 246),[17] on the basis of the 'simplified, almost abstract' animal, with its likewise plain arched body, on the reverse of the unique gold penannular brooch from Loughan, Co. Derry, which is 'a work of great delicacy and refinement', also dating from the ninth century (Ryan, in Youngs (ed.) 1989, 101, no. 83).

There is no doubt concerning the identification of one of the Cuerdale fragments as having formed part of another variety of Irish pseudo-penannular brooch (**1:1,020**; **Fig. 6.6**, no. 97). This has been cut through the linking bar at one end and its oval-sectioned hoop at the other. In between, the hoop/terminal junction takes the form of a fine animal head in profile, with bulbous eye; the terminal is circular, recessed for a central setting (now empty), with a fragment in the Goldsborough hoard (**3:4**) having exactly the same form, although most of its animal head has been cut away. There is a complete brooch of this type known from Ireland (Johansen 1973, fig. 33). A slight variant is suggested by a hoop/terminal fragment in the Cuerdale hoard (**1:1,019**), which has the oval hoop-section and displays the same bulbous eye, but has a pair of plain mouldings in between.

It is most probable that a previously unpublished pin-head from the Cuerdale hoard (**1:1,026**) derives from another contemporary version of a pseudo-penannular brooch (see below).

(E) Pin-heads and brooch-pin fragments

Some of the fourteen pin fragments catalogued here have already been mentioned; others cannot be closely paralleled or are unique (e.g. Cuerdale fragment **1:1,022**, with its central rivet-hole). In addition to the complete pin-shaft for a ball-type brooch from the Ballaquayle hoard (**13:8**), it is most probable that Cuerdale fragment **1:1,029** derives from a ball-type pin-shaft, given that its circular cross-section is flattened, with an incised step-pattern. Such pins normally then become lozenge-shaped in section, before tapering to a point; this latter transition, from rectangular to pointed pin-end, is that of a plain Cuerdale fragment (**1:1,033**), whereas a further Cuerdale fragment has been included under this heading, as most likely deriving from the central rectangular part of such a pin-shaft, given the nature of its incised step-pattern (**1:1,032**).

The most interesting of the remaining Cuerdale pin-heads, not so far mentioned in connection with the bossed penannular brooches (but see also **1:1,025**), is that of rectangular form with a central boss, surrounded by a border of plain mouldings and perforations (**1:1,026**). This was not known to Johansen (in the 1970s) because it formed part of the unpublished material in the Assheton collection, and thus it requires some further comment here, given that it is currently unique, if not without parallel in form and ornament.

This pin-head (**1:1,026**) was cast together in one with its shaft, as well as with its conical boss and a hook on its reverse, for looping around the hoop of the brooch (**Cat. Fig. 25**). It therefore differs in form from all the bossed penannular brooch pin-heads, but the hook represents the same form of

attachment as on the pin-head of the Irish pseudo-penannular brooch cited above as the parallel for the Cuerdale and Goldsborough fragments (Johansen 1973, fig. 33).

The missing link in this connection is provided by an unpublished pseudo-penannular brooch from Killaloe, Co. Clare (NMI: 1880.99). This has a rectangular pin-head, with a moulded border around a central rivet-hole, cast together with its pin-shaft, and a hook-attachment on the reverse. This is a crudely made brooch, but it has a D-sectioned hoop and sub-triangular terminals, linked by a single bar. The terminals have a border of mouldings and perforations, around a central field with a single central rivet-hole. The Killaloe brooch, therefore, provides a fascinating mixture of these various brooch-types, as they co-existed during the experimental years of brooch production in Ireland during the second half of the ninth century – and suggests that this unique Cuerdale pin-head also derives from some such 'cross-over' brooch.

(F) Bosses and rivet (detached)

The three solid bosses in the Cuerdale hoard (**1:1,034–6**) have already been introduced in the context of the bossed penannular brooches, although it should be mentioned here that, whereas one has clearly been cut away from a brooch terminal (**1:1,034**), there is no reason to suppose that the other two had ever been fitted to a brooch.

The small size and form of a complete silver rivet from Cuerdale (**1:1,037**) suggest that it would have been for use with a hollow conical boss of the type represented by a single (detached) example in the Flusco Pike hoard (**2:11**). The latter boss is most unlikely to be the sole surviving fragment of a fourth bossed penannular brooch from this find, particularly given that there is already a missing pin, and so it is suggested here that one of its two A-brooches will probably have been given a replacement pin of similar type to that fitted to its B-brooch, as the A-brooch from Orton Scar (**Fig. 1.9**).

It is likely that one or two of the beaded wire rings in the Cuerdale hoard (**1:1,107–8**), as catalogued under 'Filigree, etc.' (pp. 124–5) were made to form collars for the larger type of filigree-decorated boss employed singly on the terminals of brooches F1 (Rathlin) and F2 (Hatteberg; **Fig. 6.4**).

(G) Hoop and terminal fragments

It was suggested above that ten of the eleven fragments from the Cuerdale hoard catalogued as hoop fragments (**1:1,037–42** and **1,044–7**) are most probably from bossed penannular brooches because of their sub-triangular/D-shaped cross-sections. It should also be mentioned, however, that they not only display the appropriate degree of curvature, but also, in five instances, have lightly incised contour lines on their reverse, as do some of the hoops of the complete bossed brooches. The other Cuerdale fragment, catalogued here as part of brooch hoop (**1:1,043**), has the size and oval section to suggest that it probably derived from a pseudo-penannular brooch, rather than any type of arm-ring.

This section concludes with three flat fragments, all also from Cuerdale, each with incised ornament on one side (**1:1,048–50**). These are all too small for positive identification, but in the context of this particular hoard, and the above discussion, it seems most likely that they will have been cut from brooch terminals.

General discussion

It is evident that the brooch material in the Irish tradition, from the five hoards under discussion, represents all the main varieties of ball-type and bossed penannular brooches known from Britain and Ireland, together with some unique variants of penannular and pseudo-penannular brooches (in the case of the Cuerdale hoard). Leaving aside, for the moment, the seven brooches that form the Flusco Pike (no. 1) hoard, it is notable that only two other such brooches were deposited in wearable condition in northern England: the small 'thistle-brooch' in the Goldsborough hoard (**3:1**); and the bossed brooch with replacement pin (A11; **Fig. 1.9**), from Orton Scar, Cumbria. The rest of this material, apart from the complete hoop of a bossed brooch, also from Goldsborough, has been reduced to hack-silver, notably so in the case of the Cuerdale hoard, although it does contain the complete (if bent) hoop of the otherwise unknown type of penannular brooch with animal-head terminals. On the other hand, it is not surprising that pseudo-penannular brooches are represented in these particular hoards only in hack-silver form, and then only in the earliest two hoards (Cuerdale and Goldsborough), because such appear to have gone out of fashion in Ireland by the end of the ninth century (Graham-Campbell 1972; Ó Floinn 1989, 89). Even the two pseudo-penannular brooches which comprise the Scattery Island hoard (**10**) lack their pins.

The Vale of York hoard, deposited *c.* 927–8 (**Fig. 1.8**), contains three fragments of ball-type and bossed penannular brooches (Ager and Williams 2009, 113, no. 217,4–6; 2011, 146, nos 4–6; Williams and Ager 2010, 24, figs 14 and 21; Ager 2011, 138, figs 10–12), whereas there are two further coinless hoards that likewise contain both bossed penannular and ball-type brooch fragments: that from Lough Kinale, Co. Longford, described above (p. 7) as displaying 'Cuerdale characteristics' (see also p. 116 and note 14); and that from Sandmúli, in Iceland, which Graham-Campbell (2005, 134–5, fig. 6) has suggested is to be dated to the same period as the Skaill hoard (*c.* 960–80).

The seven (or eight) brooches of the Flusco Pike (no. 1) hoard (**2**) comprise the four 'thistle-brooches' and the three bossed penannular brooches, previously discussed. It can of course be no more than an hypothesis that they were all complete on deposition, given the evidence for extensive plough damage, but such seems to be entirely probable.

Otherwise hoards consisting exclusively of Irish brooches, such as that from Scattery Island (**10**), or brooches in the Irish tradition are virtually unknown, although the bossed penannular brooch from Ballyspellan, Co. Kilkenny (A13), is said to have been 'one of three found together, two of which are no longer traceable' (Youngs (ed.) 1989, no. 89). In addition, the Ardagh chalice hoard (Co. Limerick) contains four complete Irish brooches, of which three are pseudo-penannular (Ryan, in Ryan (ed.) 1983, no. 51,c–e) and one an early version of a 'thistle-brooch' (*ibid.*, no. 51,f; Graham-Campbell 1983b, 317, 320, note 4). On the other hand, the tenth-century hoard from Skaill, Orkney (**Fig. 1.3**), contained ten penannular brooches (with or without their pin-shafts), and fragments of others (Graham-Campbell 1995, 34), but this was together with much else besides.

The enigma of the Flusco Pike (no. 1) hoard will be returned to in the final chapter, where it will be discussed in

the context of related finds from north-west England. However, it is necessary here to recall that its four ball-type brooches, as suggested above, indicate a date of deposition no earlier than the second quarter of the tenth century, whereas its three bossed brooches had been sufficiently long in use for two of them apparently to have been fitted with replacement pins (and, indeed, for one of them to have been incised with a Norse runic *fuþark*).

Brooches: Group 2 (Scandinavian/Baltic tradition)

Knobbed penannular brooches

The Cuerdale hoard contains a fragment of a penannular brooch belonging to the Scandinavian/Baltic tradition of a type distinctive for having faceted-knob terminals. This Cuerdale fragment, however, belongs to a specific variant with an additional two knobs on the hoop, although in this case only one survives (**1:1,053**). The hoops themselves are characteristically octagonal in section, with stamped decoration, but that on the Cuerdale example is poorly executed.

This is the only fragment of a silver knobbed penannular brooch known to have been found in Britain (or mainland Scandinavia), but there are three or four such on record from Ireland, and one from Gotland. One of the Irish examples is a finely executed silver terminal, with one hoop-knob surviving (Bøe 1940, 123–4, fig. 85). This is far superior in its workmanship to a further unprovenanced single-find from Ireland of a silver hoop fragment, with a single knob surviving (*ibid*., 113, W.60), as also to that of a substantial terminal fragment, which still has both its hoop-knobs, in the Loughcrew hoard, from a crannog in Lough Creeve, Co. Meath, where it was found together with a couple of ingots (Sheehan 1998a, 189, fig. 6.8; Graham-Campbell and Sheehan 2009, 85, fig. 7).[18] It seems reasonable to suggest, therefore, that there exists, among these four or five pieces from Britain and Ireland, a small group of imitative versions of an imported brooch-type. On the other hand, the Gotlandic fragment, which consists of a small part of the hoop with one knob surviving, represents a finely executed example of this brooch type. This is from a hoard, found between Vamlingbo and Sundre, which was deposited *c.* 965/70 (Stenberger 1947, 211–12, no. 525, pl. 55,3).

A complete copper-alloy brooch of this 4-knobbed type is in fact known as a single-find from Gogar Burn, Midlothian, Scotland (Grieg 1940, 156, fig. 71). This has a close parallel from Norway illustrated by Rygh (1885, no. 675), although the latter has four protruding 'pegs' on the upper surface of each knob. This is a feature shared with the single example of a 4-knobbed brooch amongst those with knobbed terminals from Birka, Sweden (Arbman 1940, pl. 52,4), where they are considered to have been of Finnish origin (Thålin 1984, Type II; Ginters 1984, Type VK).

Knobbed penannular brooches were, indeed, characterised by Salmo as being Finnish in type, with their origins at the beginning of the Viking Age (1956, 30–43). He divided them into two groups based on whether or not they had 'pegs' on their terminal-knobs; Group 7 (without 'pegs') is the commoner type, with Group 8 (+ 'pegs'), being a slightly later variant.

When the penannular brooches with knobbed terminals, found in Norway, were discussed by Gjessing (1927), he drew attention to the existence of a second copper-alloy example with four knobs (in addition to R.675), but in this instance without 'pegs' (*ibid*., fig. 9; Petersen 1928, 186). A copper-alloy brooch that is remarkable for having three hoop-knobs is known from the west of Norway (Gjessing 1927; Petersen 1928, 186), but this is paralleled by an example with 'pegged' knobs from Pori-Tuorsniemi, Finland (Salmo 1956, 37–8, fig. 16).

It would appear, therefore, that the knobbed penannular brooch-type was introduced into Norway, ultimately from Finland (but presumably by way of central Sweden), to be copied there (*ibid*., 39; Sjövold 1974, 217–18) – before being further copied in the west, if never in any quantity. The particular significance of the fragment in the Cuerdale hoard is, therefore, that it provides evidence for silver copies of the 4-knobbed variety (without 'pegs') having been manufactured, most probably in Ireland, sometime before the end of the ninth century (cf. Johansen's F-brooches, discussed above).

Penannular brooches of Stenberger's 'Ring-pin Type 1'

There remains one further type of silver penannular brooch to be noted in this group of Scandinavian variants, even though it is not represented in this catalogue. This is characterised by its faceted rectangular terminals with stamped ornament, known as Stenberger's 'Ring-pin Type 1' (1958, 74–6, fig. 5), which is seemingly of West Norse origin (Graham-Campbell 1984, 33–4; 1987b, 242). It is, however, present in two tenth-century hoards of Viking character from Scotland, both with strong Irish Sea connections.

A complete brooch, with a probable replacement pin, and another complete hoop form part of the Skaill, Orkney, hoard, deposited *c.* 960–80 (Graham-Campbell 1995, 36, 111, no. 24:6, and 113, no. 24:8, pls 17 and 23). In addition, the hoard from below the Storr Rock, Isle of Skye (deposited *c.* 935–40), contains a terminal fragment, alongside a fragment of a bossed penannular brooch (*ibid*., 28, 144–5, no. 30:2–3, pl. 67). It has been suggested that this Norwegian penannular brooch variant may lie behind the form of a couple of other brooch hoops from the Skaill hoard (*ibid*., 36), but this copying would post-date the deposition of the Cuerdale hoard.

Brooches: Group 3 (Anglo-Saxon tradition)

The brooches catalogued by David Wilson as part of the *Anglo-Saxon Ornamental Metalwork, 700–1100, in the British Museum* (1964, 52–3) are all circular in form, with the possible exception of the trefoil object in the Kirkoswald hoard, Cumbria (see above, p. 17). As discussed in Chapter 1, the two ninth- and eleventh-century mixed hoards in the British Museum containing Late Saxon disc brooches – from Beeston Tor, Staffs, and Sutton (Isle of Ely), Cambs – are amongst the 'exclusions' from this catalogue, as is the coinless hoard from Pentney, Norfolk, which consists exclusively of six such brooches (Webster and Backhouse (eds) 1991, no. 187).

The silver circular brooch fragments recognisable in the Cuerdale hoard (**1:1,054**) take the form of the beaded borders from what would most probably have been an (imitative) coin-brooch, together with a 'miscellaneous' brooch pin (**1:1,055**).

Circular brooch fragments

The Cuerdale hoard contains six fragments of beaded rings (Hawkins 1847, fig. 76, illustrates the smallest), which join together to form the greater part of the border of a circular brooch (**1:1,054**),[19] comprising seven concentric rings of coarse filigree, with its centrepiece missing (Graham-Campbell 1987a, 338).

Such circular brooches, which were set with a coin or (more usually) an imitative coin, were popular in England from the ninth to eleventh centuries (Wilson 1964, 35–6; Dolley 1971); they are also encountered on the continent (Berghaus 1994) and in Scandinavia (Stenberger 1958, 53–64; cf. Graham-Campbell 1980, no. 135). Indeed, Besteman includes the three coin-brooches amongst the Scandinavian, and 'most probably Danish', elements in the Westerklief I hoard, deposited *c.* 850, on the former island of Wieringen, in the province of North Holland (2004a, 95). These, however, contain two old Sassanid drachma (both with a 5-ring border) and an old Abbasid dirham (with six rings), but in all three cases the filigree effect is achieved by fine grooving (Besteman 1999, 256–7, fig. 12), rather than the actual beading of the Cuerdale 7-ring border.

In this respect, the Cuerdale example comes closer to the fine silver nummular brooch in the Ashmolean Museum, Oxford, with a Canterbury provenance, although this is both later in date (from *c.* 970) and more elaborate in form, having a 12-ring border (Hinton 1974, no. 6; 2008, 67–8).

It is suggested, therefore, that these Cuerdale fragments represent the remains of one of the few pieces of Late Saxon ornamental metalwork in the hoard. In addition, the bent pin from Cuerdale, catalogued in this section (**1:1,055**; **Fig. 6.8**), with its looped head, is of the type used in conjunction with such circular brooches, for example that found at the Villa Wolkonsky in Rome, which contains 'a tooled coin of Edward the Elder' (Blunt 1986, 165–6), dating it to *c.* 920 (Wilson 1964, no. 64).

Brooches: Group 4 (Frankish tradition)

Equal-armed brooch fragments

The Cuerdale hoard contains two fragments of silver equal-armed brooches, with filigree decoration (**1:1,056–7**; **Figs 6.9** and **7.5**), of a well-known continental type discussed by Władysław Duczko in relation to his study of the equal-armed brooch from Grave 606 at Birka, in Sweden (1985, 91, fig. 121), which has a close parallel from Norway. On the other hand, the decoration of the Cuerdale fragments (unknown to Duczko) relates them more closely to two complete examples from Denmark, notably that in the Lerchenborg hoard (**Fig. 7.6**), deposited during the second half of the ninth century, and a third from Domburg, in the Netherlands. Duczko concluded that these equal-armed brooches 'were manufactured during the second half of the ninth century on the continent, probably somewhere in the north-eastern Frankish area' (*ibid*., 91), but see below for a more detailed discussion by Egon Wamers, in Chapter 7, with full references.

Pins

Trefoil-headed pins

The Cuerdale hoard contains three or four fragments (**1:1,058–61**) that appear to have been cut from Norwegian trefoil-headed pins (e.g. **Fig. 6.10**; cf. Rygh 1885, no. 681). The largest (**1:1,060**) retains two complete, if bent, pin-head loops and is cut across the beginning of its third loop, with the smallest (**1:1,061**) seemingly having one loop and being cut across another, although this might alternatively be the remains of a cut-up annular arm-ring which had first been bent into a figure-of-eight (cf. **1:837**). The other large fragment (**1:1,058**) has an incomplete pin-head, bent out of shape. Enough of its shaft survives, however, to show the flattening in its cross-section. Less of the pin-head of fragment **1:1,059** survives, but its other end is rectangular in section (and both of these pieces display the same exceptionally high level of nicking).

Petersen (1928, 190–2, fig. 236) recorded eight examples of trefoil-headed pins from Norway, five of which are of silver, one of copper alloy and two of iron. According to his dating (*ibid*., 197), five of the pins are from tenth-century male graves and one from a ninth-century female grave (cf. Sjövold 1974, 235). One of the silver pins is from a male grave at Voll, Overhalla, Nord-Trøndelag (**Fig. 6.10**), which also contains an Insular drinking-horn (Petersen 1940, 71, no. 97, fig. 79).[20]

Only one other Viking-age silver hoard from Britain and Ireland is known to contain such a pin-head fragment (Graham-Campbell 1987a, 337; Ryan *et al*. 1984, 341, no. 106, pl. 9.8), but this is Dysart (no. 4), Co. Westmeath, deposited *c.* 910, which is the Viking-age hoard from Ireland with the most numerous parallels to Cuerdale, despite its far smaller size (as noted in Chapter 1).

Figure 6.8 Anglo-Saxon silver brooch-pin (no. 86), from the Cuerdale hoard

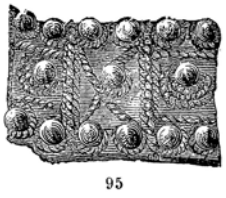


Figure 6.9 Carolingian, silver, equal-armed brooch fragment (no. 95), from the Cuerdale hoard

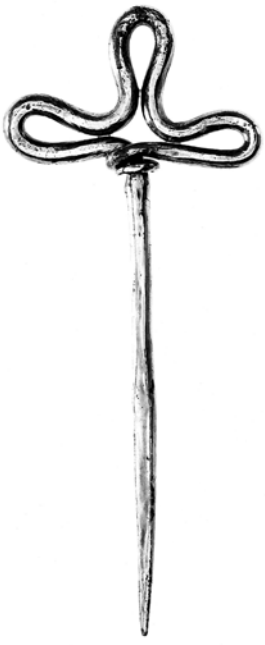


Figure 6.10 Norwegian, silver, trefoil-headed pin, from Voll, Overhalla, Nord-Trøndelag

Miscellaneous pins

Two other types of silver pin known from hoards of Viking character found in Britain and Ireland are not represented in this catalogue. These consist of the two ringed pins in the Skaill, Orkney, hoard (**Fig. 1.3**; Graham-Campbell 1995, 36, no. 24:5 and 11, pl. 46), and that associated with an elaborate chain in the lost silver hoard from Garron Point, Co. Antrim (**Fig. 6.11**).[21] It is also worth drawing attention to two further types of silver pin known from pagan Norse graves in Scotland: one has a filigree-decorated bead for its head and an associated chain (see below), from a female grave at Ballinaby, Islay (*ibid*., 155–6, S6, pl. 74.a–b); and the other is a Scandinavian stick-pin of the so-called 'Vestfold type', from the ninth-century boat burial at Kiloran Bay, Colonsay (*ibid*., 157, S7, pl. 74,c).

Buckle(s)

The Cuerdale hoard contains one remarkably large buckle (**1:1,062**; **Fig. 6.1**, no. 62), which is without obvious parallel, given that it was cobbled together from a penannular arm-ring and a cut-down pin cannibalised from a 'thistle-brooch' of the same type as the pin-head utilised to make the handle of the 'Cuerdale stamp' (**1:1,001**).

As noted above, the only other buckle in the Cuerdale hoard (**1:1,116**; **Figs 6.18**, no. 100, and **7.8**) – as, indeed, from any other Viking-age hoard in Britain or Ireland – is of Carolingian type, but lacks its tongue (see Egon Wamers, below, pp. 137–8). It is suggested here that it may have seen service as a pendant, together with the Carolingian belt-mount (**1:1,117**), by analogy with a ninth-century Anglo-Saxon gold finger-ring which might have formed part of the necklace in the Hoen hoard, despite likewise not having been fitted with a suspension loop (Graham-Campbell 1999, 55, fig.1; Wilson 2006, 121; but cf. Fuglesang 2006, 95–6). On the other hand, it should perhaps be regarded as no more than a piece of bullion.

Beads, rings, chains, wires and filigree fragments

Beads

Two types of silver bead are represented by the remains of the five examples in the Cuerdale hoard (**1:1,063–7**): (i) spiral (one complete and three fragments); (ii) globular, with filigree ornament (one fragment). There are no other examples in this catalogue, but Viking-age silver beads have otherwise rarely been found in Britain and Ireland, numbering some five in all.[22]

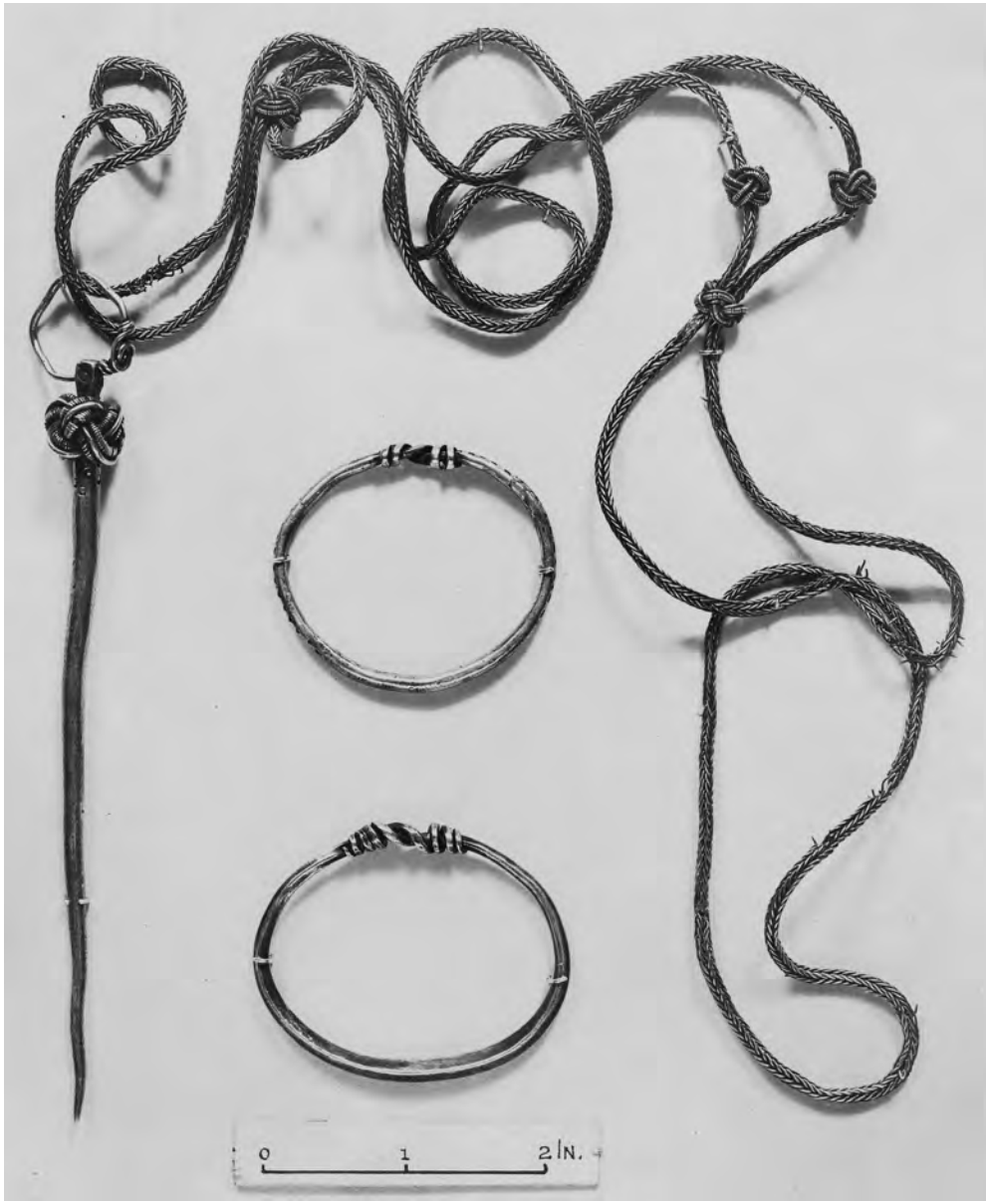


Figure 6.11 Silver hoard from Garron Point, Co. Antrim (lost): two annular rod arm-rings and a ringed pin, attached to a Trichinopoly chain (British Museum)

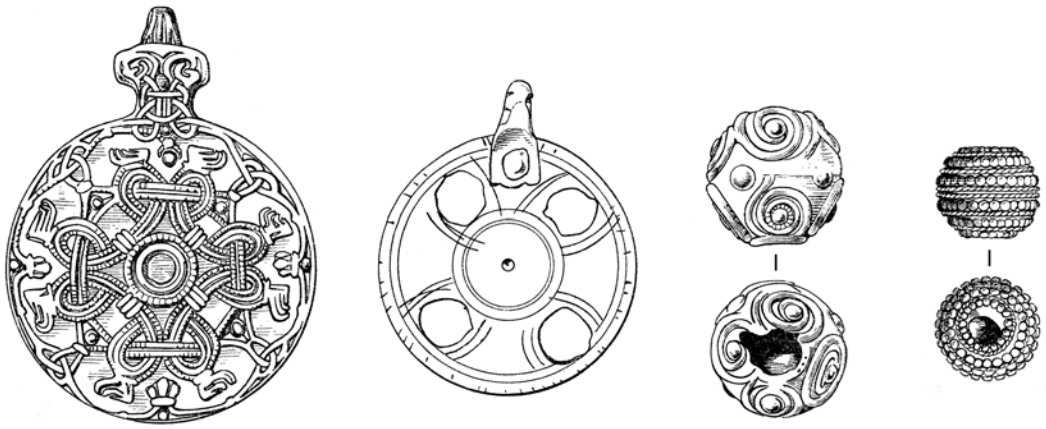


Figure 6.12 Saffron Walden, Essex: silver beads and pendants from a grave (after Evison)

A complete globular silver bead, with filigree ornament, forms the head of a silver pin from the rich female burial at Ballinaby, Islay, in the Inner Hebrides (Graham-Campbell 1995, 155–6, S6, figs 60–1 and pl. 74,a), associated with a Trichinopoly-work chain. However, the Ballinaby bead belongs to a different, if well-known Scandinavian type, with S-spiral filigree decoration (Duczko 1985, 73–4), as represented in England by one of the two silver beads (**Fig. 6.12**) in the female Viking-age grave from Saffron Walden, Essex (Evison 1969, 340, fig. 3,d and pl. lxxii,a); the other Saffron Walden bead is neatly formed using a combination of beaded and twisted wires (*ibid*., 340, fig. 3,e and pl. lxii,b), which seems to come closest in form to a couple among the silver beads from a grave-find at Karlevi, Vickelby, Öland (Stenberger 1958, pl. 78). The remains of two filigree-ornamented silver beads metal-detected from Monaltyduff crannog, Co. Monaghan (Graham-Campbell and Sheehan 2009, 84, fig. 5) were the only other such finds on record from Britain and Ireland before the (2007) discovery of the hoard in the Vale of York (*c.* 927–8), which contains another such bead as part of a composite ornament (*Portable Antiquities and Treasure Annual Report 2007*, 113, no. 217,9; Williams and Ager 2010, 25, fig. 14). One of the Monaltyduff beads belongs to the spiral filigree-ornamented type; the other fragment, with granulation, was seemingly biconical in form, but has been crushed.

The Cuerdale bead fragment, with bands of granulation separated by twisted wires (**1:1,067**), is also crushed, but its construction brings to mind that of the second Saffron Walden bead, just mentioned (**Fig. 6.12**). However, it appears to be lacking a closer parallel, although it can be seen to fit well enough into the Viking-age tradition of silver filigree-ornamented beads, which have continental prototypes,[23] with later examples including some of those on the necklaces in the Swedish hoards from Vårby, Södermanland, deposited *c.* 940 (Stenberger 1958, pl. 12,2), and Fölhagen, Gotland, deposited *c.* 1000 (Stenberger 1947, pl. 171).

As is evident from the above survey, the plain spiral bead (**Fig. 6.13**, no. 77) and the three fragments in the Cuerdale hoard (**1:1,063–6**) are only to be paralleled in Scandinavia. In Norway, they are found in both copper alloy and silver (Petersen 1928, 167–8, fig. 202); examples from Denmark include those in the Lerchenborg hoard, Sjælland (**Fig. 7.6**), deposited *c.* 900 (Skovmand 1942, 108, fig. 24), and three out of the four silver beads in a small Viking-age hoard metal-detected at Kalmergården (Tissø), Sjælland (*Danefæ 1988*, 186). There are two plain silver spiral beads among those in Grave 649 at Birka, Sweden (Arbman 1943, 228; 1940, pl. 114,8), although such beads from Birka are normally made of beaded wire (*ibid*., pl. 114,1, 7 and 9–12; Arwidsson 1989a), as are those among the silver beads from the grave-find on Öland, mentioned above (Stenberger 1958, pl. 78) – and also in 'the extremely early hack-silver hoard from Kettilstorp, Önum, Västergötland, with its *t.p.q*. of 850' (Hårdh 2007, 117, fig. 5.15).

Suspension/attachment rings

Suspension/attachment-rings have been included in this section because, alongside beads, silver rings of various types (plain, beaded and twisted) were utilised on necklaces, both as suspension-rings for one or more beads and as spacers, whereas other rings were used for attaching pins, brooches and pendants to chains (see below). It is of course not possible to identify all such material in the Cuerdale hoard with any certainty, but of the fifteen rings and fragments catalogued here (**1:1,068–82**) there are, in particular, two pairs of complete rings (**1:1,068–9** and **1,070–1**; **Fig. 6.13**, no. 71) which are well paralleled in grave-finds and hoards from Scandinavia (cf. those in a hoard from Filborna, Skåne, with a *tpq* of 955 for its deposition: Hårdh 1976, no. 66, pl. 36,24–6).

In Norway, for example, six silver wire rings were each used to suspend one or two beads being worn, as part of a fine necklace, by a wealthy woman buried at Veka, Vangen, Hordaland (Schetelig 1912, 208, fig. 489), identified by Price as a sorcerer (2002, 196–8; with reconstruction, fig. 3,90). There are also five such suspension rings in the late ninth-century Hoen hoard, the largest of which has nine white beads, with a beaded 'spacer' ring between each one (Fuglesang and Wilson (eds) 2006, 276–7, nos 75–83, pl. 24); these recall the two small twisted rings from Cuerdale (**1:1,073–4**).

In Denmark, the Lerchenborg hoard is once again relevant (**Fig. 7.6**), having three such suspension-rings (Skovmand 1942, 108, fig. 24), and several examples (both beaded and plain) are present in the Birka graves, Sweden (Arbman 1940, pls 114–15, 117–19 and 121–4). Examples of small beaded 'spacer'

Figure 6.13 Silver rings, spiral bead and wire knot (nos 71 and 77–8), from the Cuerdale hoard

rings also occur at Birka, as on the necklace in Grave 854 (*ibid*., pl. 118), and on two of the three pendant rings from Grave 557 (*ibid*., pl. 121,2a–b).

Other suspension/attachment rings (both beaded and plain) form part of silver brooches, such as the pair of filigree-ornamented 'Terslev-type' disc brooches from Tryggestad, Öland (Capelle 1968, 117, pl. 27,1–2). Some such were no doubt sewn to clothing for safety reasons, or perhaps used together with a chain, as on the magnificent quatrefoil brooch from Rinkaby, Skåne (Hårdh 1976, pl. 49,ii; Graham-Campbell 1980, no. 490). Others, however, formed part of yet more elaborate arrangements, such as the 'Terslev' disc brooch in the hoard from the island of Sejrø, Sjælland, with a *tpq* of 953 for its deposition. This has three separate chains attached to its ring, each of which ends in a further ring; this hoard also contains a Thor's hammer pendant with a suspension-ring used for its attachment to a chain (Skovmand 1942, 103–6, no. 41, fig. 22).

Rings were likewise needed to attach chains to pins, as with that in the Ballinaby grave mentioned above (but see also below). A later use for such rings was to link coins together to form necklaces, such as those in some well-known eleventh-century hoards from Blekinge and Skåne (Hårdh 1976, pls 4,57–8 and 38,20; Graham-Campbell 1980, no. 156).

Chain and wire fragments

There are seven pieces of silver chain in the Cuerdale hoard (**1:1,083–99**), the largest of which (**1:1,086**) is a fine example of the so-called Trichinopoly technique of knitting silver wire (**Fig. 6.14**), which has to have been drawn to achieve the necessary degree of fineness (Whitfield 1990, 25).[24] There is a second smaller and slighter piece of Trichinopoly-work from Cuerdale (**1:1,089**), as well as the semi-molten fragment catalogued here as 'waste' (**1:369**). The only other example in this catalogue is the fragment in the Inch Kenneth hoard, off Mull (**14:1**), which was deposited *c.* 1000, although there is also a piece in the Skaill, Orkney, hoard (Graham-Campbell 1995, 121–2, no. 24:102, pl. 48), which was deposited *c.* 960–80.

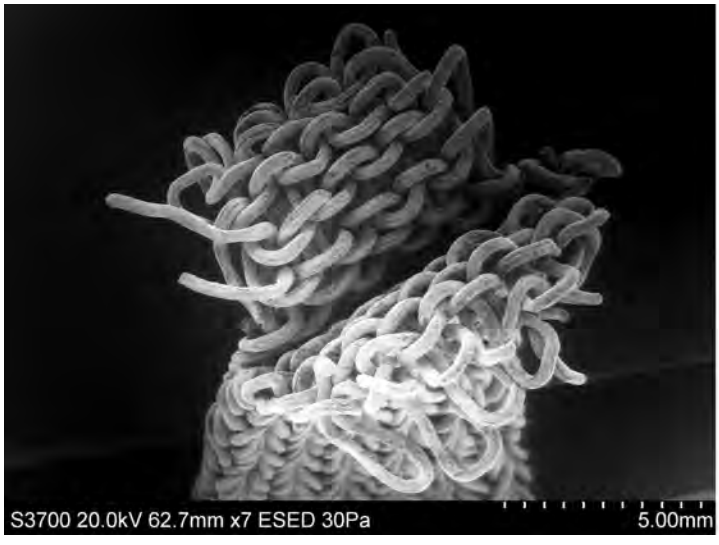
The large Cuerdale fragment, which was constructed as a tube and then flattened to form a flat strap, is broken at one end (**Fig. 6.14**), but the other is complete with a terminal mount and ring, which is well paralleled by that associated with the Ballinaby silver pin, already noted for having a filigree-ornamented bead for its pin-head; its attachment ring thus suggests the manner in which it might have been used (Graham-Campbell 1995, 155–6, S6, figs 60 and 62, pl. 74,a–b). Even more elaborate is the complete chain that was associated with a silver ringed pin in the lost hoard (**Fig. 6.11**) from Garron Point, Co. Antrim (Gray 1907). Both the Ballinaby and Garron Point chains are embellished with decorative wire knots, as was the silver chain on the lost kite-brooch from Clonmacnoise, Co. Offaly (Whitfield 1997, 500–1, pl. 40).

Such silver chains are regarded as imports into Norway, with parallels for the above examples including two grave-finds: a length of silver chain, broken at one end, but with an attachment ring, of two pairs of twisted wires, at the other (B.3671,d: Petersen 1928, 170); and a more recent discovery, from a female boat grave, with rings on both ends and three decorative knots, found together with a pair of oval brooches (B.11413,b: *Universitetet i Bergen Årbok 1960*, 26–30).[25]

The small plaited knot of fine silver wires in the Cuerdale hoard (**1:1,090**; **Fig. 6.13**, no. 78) is, however, better paralleled, as Bjørn and Shetelig noted (1940, 42, s.6), by those which form the terminals of the silver scourge in the Anglo-Saxon hoard from Trewhiddle, Cornwall (deposited *c.* 868), which is likewise manufactured in the Trichinopoly technique (Wilson 1964, no. 91). It is thus possible that this particular type of small wire-knot is of Anglo-Saxon manufacture, although Trichinopoly chains do not appear to be known from other Anglo-Saxon contexts.[26]

On the other hand, there are closely related wire balls and cones, in both silver and gold, known from tenth-century contexts from Carlisle, in north-west England (Whitfield 2006), as well as from Branston and Mere, Lincs,[27] in the Danelaw. Others are known from the Isle of Man (Graham-Campbell 2002c, 88–9), Ireland (Wallace and Ó Floinn (eds) 2002, 214, 223, pl. 6.1), and Iceland (Eldjárn 2000, 392, fig. 314). All of these are, however, more elaborate and would appear to have been used as embellishments to dress.[28] A related, flat, silver wire-knot from St Mary Bishophill Senior, York, is in openwork and has been identified as an appliqué for clothing (Hall 1998).

The hank of wire, which clearly belongs among the small quantity of manufacturing materials in the Cuerdale hoard (**1:1,091**), is readily paralleled by two such in the Chester hoard (**Fig. 1.12**), deposited *c.* 965 (Webster 1953, 29, where described as 'small coils'), as well as by a number of examples in silver



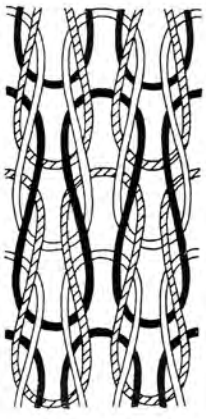


Figure 6.14 SEM photo of a Trichinopoly chain (**1:1,086**), from the Cuerdale hoard; with a schematic drawing of that in the Trewhiddle hoard, Cornwall (Eva Wilson)

hoards from Scandinavia (e.g. Hårdh 1976, pls 11,ii and 21). In noting the existence of coils of metal wire from the Hedeby excavations (of silver, copper and brass), Whitfield has suggested that drawn wire in this form might have been traded as raw material (1990, 26).

The distinctive figure-of-eight looped chain in the Cuerdale hoard (**1:1,085**; **Fig. 6.15**, no. 1) is executed in a technique known at this period from such Irish finds as the silver pin and chain from Lagore crannog (Garside (ed.) 1980, no. 407),[29] and the elaborate arrangement, also in silver, found together with a pair of oval brooches near Arklow, Co. Wicklow (Bøe 1940, 73, fig. 47; Ó Floinn 1998b, 31–3, pl. 2). A chain of this type, made of copper alloy, was secondarily attached to an Insular house-shaped reliquary, now in Bologna (Blindheim 1986; Youngs (ed.) 1989, no. 132; Ó Floinn 1998b, 32). They were also used to suspend the scale-pans of some Viking-age balances, as on a notably fine set found at Jåtten in Norway (Petersen 1940, 160, no. 21, fig. 133; Graham-Campbell 1980, no. 306; Blindheim 1986, 29, fig. 21). Ó Floinn (1998b, 31) endorses Blindheim's conclusion (1986, 29) that such chains most probably have 'a Western origin' because 'no object of undoubted Scandinavian manufacture bears a chain of this form'.

The remaining four chain fragments from Cuerdale represent other types that can be readily paralleled in Scandinavian silver hoards, and in some grave-finds, as at Birka, Sweden, where Arwidsson distinguished nine varieties (1989b, 74–5, fig. 14,1). Copper-alloy chains were, for instance, used to link pairs of oval brooches both in Sweden and Norway, where the use of chains in general was, however, less common than in Sweden (Petersen 1928, 170–1, figs 204–5; Sjövold 1974, 219–22, pls 28 and 33).

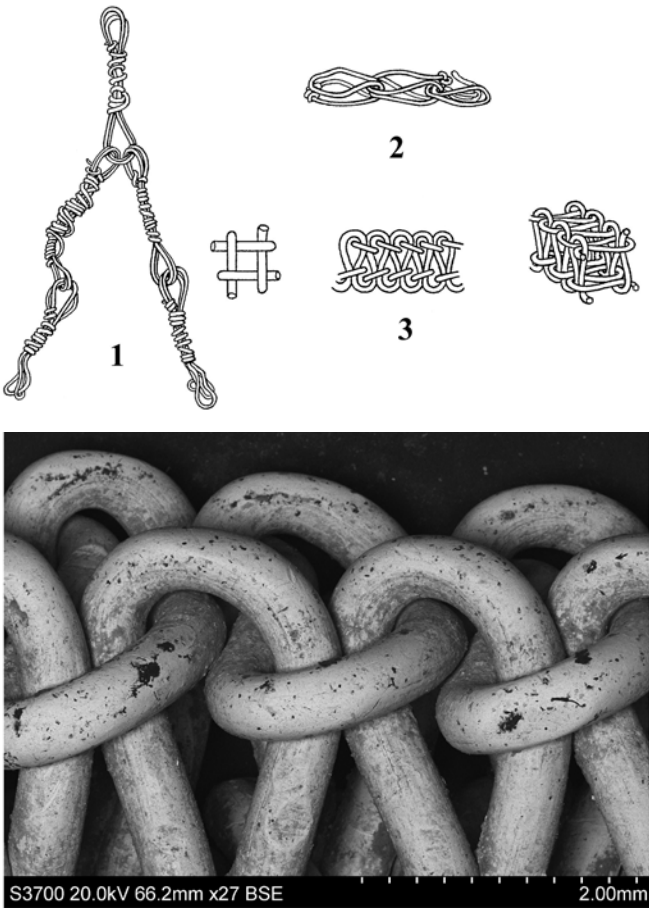


Figure 6.15 Three fragments of silver chain from the Cuerdale hoard: (1) **1:1,085**; (2) **1:1,084**; and (3) **1:1,088**; with SEM photo of **1:1,088**

One of the main types of chain was assembled from pre-formed links, the end-result varying according to the shape into which they were first bent; the individual links might be plain or beaded (**Fig. 6.15**, no. 2). The two main versions, distinguished by Stenberger (1958, 281, figs 65 and 68), are both represented in the hoard (**1:1,083–4** and **1,087**). Their distribution has most recently been plotted by Wiechmann (1996, lists 17–18, maps 65–6), although he was unaware of the Cuerdale examples. In addition, the chain associated with the silver filigree bead in the Vale of York hoard (*c.* 927–8) is of this type (*Portable Antiquities and Treasure Annual Report 2007*, 113, no. 217,9; Williams and Ager 2010, 25, fig. 14).

The final type of chain is represented by a single fragment in the Cuerdale hoard (**1:1,088**), although its complex construction (Stenberger 1958, 278, figs 48–9) relates it to both a silver arm-ring fragment in the Ballaquayle hoard, Isle of Man (**13:11**), and the gold arm-ring from Ireland (**21**), discussed above (pp. 100–1). Such chains are formed from four separate wires or rods, looped and threaded together (**Fig. 6.15**, no. 3). In the case of the Cuerdale fragment, it can be seen from the photograph taken in the Scanning Electron Microscope (SEM) to have been made from drawn wire (**Fig. 6.15**). It has previously been considered (e.g. Wiechmann 1996, list 18, map 67) that the earliest example of such a chain from a coin-dated hoard is that from Tärnö, Blekinge, with a *tpq* of 936 for its deposition (Hårdh 1976, no. 4,26, pl. 8); this hoard also contains a chain fragment of the previous type (*ibid*., no. 4,24, pl. 8).

Filigree fragments

The several small silver filigree fragments in the Cuerdale hoard are more or less unidentifiable, other than those that constitute the (previously mentioned) border of the Anglo-Saxon disc brooch (**1:1,054**) and the equal-armed brooch fragments (**1:1,056–7**), already mentioned, which are discussed further in Chapter 7, by Egon Wamers (**Figs 6.9** and **7.5**). One further filigree fragment is given separate consideration as probably having formed part of a pendant (**1:1,114**).

The problem in identification is that there exists a considerable body of Scandinavian silver filigree-ornamented jewellery from which such fragments might derive, including brooches, pendants and beads of various forms, some of which are discussed by Duczko in his study of the Birka material (1985), although others may equally well be derived from imported ornaments.

It is natural enough to suppose that such fragments as Cuerdale **1:1,109** and **1,112** had formed part of the borders of disc brooches, given that many combinations of plain, beaded and twisted wires were used in this way – as, for example, the twisted wires, combined with an inner plain wire, used to border the silver quatrefoil brooch from Hauge, Norway (Petersen 1928, 130–2, fig. 144). The Hauge brooch also serves to illustrate the manner in which filigree-ornamented bosses were given a collar of beaded wires (such as fragments **1:1,107–8** and **1,111**). In the context of the Cuerdale hoard, however, it may be that some such boss-collars are from the pin-head or terminals of a bossed penannular brooch of Johansen's subgroup F. Indeed, the filigree-panels on the terminals of the brooch from Rathlin Island (Johansen 1973,

85, fig. 58, F1; Bourke, forthcoming) suggest a possible use for another of the Cuerdale fragments (**1:1,100**).

Whereas some of these fragments display evident wear (e.g. **1:1,107**), it is of interest to note that the U-shaped fragment, with its finely beaded outer face (**1:1,110**), is in such crisp condition as to suggest that it is unused (except as piece of hack-silver, because of having two definite nicks).

Pendants

There are eight complete or fragmentary silver objects in this catalogue that may be regarded as having been made or used as pendants. Four of these are clearly of amuletic significance, both pagan (two) and Christian (two), of which one is a late coin-pendant, with the four others being primarily decorative in purpose, including two pieces of re-used continental metalwork. At the same time, however, all such objects were presumably also indicative of social and economic status.

The overtly pagan pendants take the form of Thor's hammer, which is the most numerous form of Viking-age amulet known in Scandinavia. It has thus often been the subject of discussion, as recently by Zeiten (1997, 25–50), Staecker (1999, 213–44), and Jensen (2010, 65–72). The popularity of Thor's hammer pendants in the Danish area, with Zeiten able to cite forty-nine examples, in a variety of materials (1997, nos 75–122), and Jensen over eighty (2010, fig. 3.1.1), accords well with their introduction to and use in England (see below, and Handlist no. 3). According to Zeiten (1997, 25):

> In Denmark Thor's hammers primarily belong to the 10th century, but are found in both the 9th and the 11th century. In hoards, they are primarily deposited in the second half of the 10th century, but become rare after the year 1000 and do not occur later than *c.* 1030 in finds from the old Danish area (Skovmand 1942, 144).

Amuletic pendants

The only complete pendant of Scandinavian type in the Cuerdale hoard is that in the form of a perfect miniature hammer (**Fig. 6.16**, left, and **Cat. Fig. 28**), without decoration (**1:1,115**); indeed, few such Thor's hammers are as naturalistic as this fine example, as can be appreciated from that, also of plain silver (**Fig. 6.16**), excavated from the neck of the warrior buried (*c.* 873/4) in Grave 511 at Repton, Derbys (Biddle and Kjølbye-Biddle 2001, fig. 4.14,1). The Cuerdale hammer pendant, being of plain cast silver, has been classified by Staecker as belonging to his Type 1.5, of which he listed eighteen examples (1999, 227–9, 566, no. 17, map 45), although this was then the only find of a Viking-age Thor's hammer known to him from Britain.

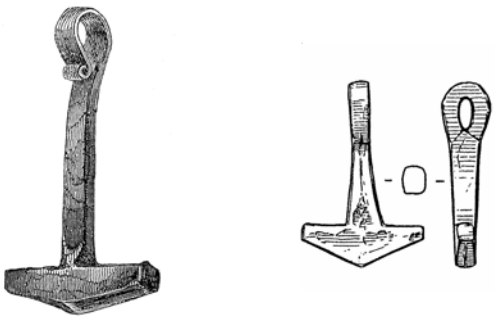


Figure 6.16 Silver Thor's hammer pendants: from the Cuerdale hoard (left), and Repton grave 511 (after Biddle and Kjølbye-Biddle)

In relation to the Cuerdale pendant, it is interesting to note Jensen's review of earlier discussions concerning the interpretation of such amulets in Viking-age hoards (2010, 114–16, with refs). Since the nineteenth century there has been speculation that a Thor's hammer might have been deposited in a hoard for its protection, given that they have only rarely been reduced to hack-silver. It is, indeed, the case that the Cuerdale pendant is in excellent condition, although it appears to have been given a pair of nicks (**1:1,115**). It is, however, Jensen's 'overall impression' that Thor's hammers were included in hoards 'because of their material', with there being 'little reason to think that they continued to have much meaning as amulets within the hoard' (*ibid*., 116).

The Thor's hammer pendants from the dated contexts at Cuerdale and Repton, as also now from the 'Great Army's' (872/3) winter-camp at Torksey, Lincs,[30] are clearly of importance for further discussion of the southern Scandinavian material, given that the majority of Danish examples appear to have been deposited during the tenth century (as noted above).

By the end of 2005, thirteen Viking-age silver and gold pendants in the form of Thor's hammers were on record from England (see Handlist no. 3), not including the silver example from Torksey (see note 30, below). Jensen's total of fifteen such amulets from England (2010, fig. 7.12) includes those in other materials, but even the number of silver pendants has in fact increased more considerably – and continues to do so (cf. *Treasure Annual Reports*) – so that the group as a whole is now in need of detailed discussion elsewhere.[31]

It is of interest to note, however, that among the examples from England are four other small plain silver hammers (in addition to that from Repton) to parallel the Cuerdale pendant (if also not so fine), from: Surlingham, Norfolk; 'Essex' (*Treasure Annual Report 2002*, no. 45); Wetwang, East Yorks (*ibid*., no. 44); and near Holt, Norfolk.[32] Small plain hammers from southern Scandinavia which bring these examples to mind include a couple of finds from Bornholm (Zeiten 1997, nos 84–5, figs 36 and 34). Far more elaborate are two silver hammers from Norfolk, both with gold filigree insets (Mills 2001, 73, no. V198; *Treasure Annual Report 2003*, no. 98); these are so similar that they will presumably have been made in the same (local) workshop.

The other genuine hammer-shaped pendant of silver in the British Museum is a metal-detected single-find,[33] in the form of a fragment from Leconfield, East Yorks (**39**), which is randomly ring-stamped on one side of its head. It thus belongs to Staecker's Type 2.1.1, of which he was able to list fourteen examples, all but one of which (from Poland) have been found in Scandinavia (1999, 229, 566, map 46). This use of stamped decoration is, however, now readily paralleled by other finds from England. The hammer from South Lopham, Norfolk (Margeson 1996, fig. 2; 1997, figs 13–14), is decorated with a triangular punch containing three pellets on both sides of its head and shaft, and that from Swithland, Leics (*The Searcher* (June 1993), 18–19), is irregularly stamped on both sides, but only on its head, whereas the hammer from Sibton, Suffolk (West 1998, fig. 126,5), is neatly stamped on one side of its head, continuing up the shaft.[34] Examples of Thor's hammers with related stamped ornament from southern Scandinavia are conveniently illustrated by Zeiten (1997, figs 32–3 and 48), but

such decoration is normally confined to one side (Jensen 2010, 132), with an exception from Hedeby (Staecker 1999, fig. 116).

Apart from Cuerdale, the only other silver hoards of Viking character from Britain and Ireland known to have contained a pendant are both from Yorkshire: Goldsborough (deposited *c.* 925), and Bossall/Flaxton (deposited *c.* 927). In addition, the necklace in the female grave from Saffron Walden, Essex, already discussed for its two silver beads, contains three disc-shaped pendants to be considered below (Evison 1969).[35]

The plain cruciform pendant from Goldsborough (**3:12**) was first published by David Wilson (1957), who commented that 'it must be presumed that this cross is a Christian symbol, perhaps slightly confused in its design with the pagan Thor's hammer'. It has most recently been considered to be a cross by Jensen (2010, 75, cat. 261), following Staecker, who allocated it to his simple cross-type '1.2.4', of which he listed nine examples, the others being from Viking-age Scandinavia and Gnezdovo, Russia (1999, 98–101, 555, fig. 37, map 9). A smaller, and likewise plain, example has since been excavated at Bornais, South Uist, where a Norse settlement was established in the tenth century (Sharples and Smith 2009, 115, fig. 5.5,7).

The pendant from the Bossall/Flaxton hoard is lost, as are most of its contents, having been discovered in 1807 (Graham-Campbell 1993). However, the original report, in the form of a letter published in the *Gentleman's Magazine*,[36] mentions the existence of 'a small Silver Crucifix' which presumably means no more than a small cross-shaped pendant, at this date, and so provides a seemingly close parallel for the Goldsborough example.

One of the pendants worn by the woman buried at Saffron Walden is 'a silver [cruciform] disc transformed into a pendant by the addition of a loop' (**Fig. 6.12**), which was originally perhaps a shrine-mount (or possibly a pin-head), considered by Evison to be of Anglo-Saxon manufacture (1969, 340, fig. 3,c and pl. lxxii,b–c).[37] A parallel is provided by an Anglo-Saxon silver roundel found at Chester, which is the same size as that from Saffron Walden (if more elaborately decorated); in this case, it appears to have been converted into a brooch (Wilson, in Mason 1985, 61, fig. 26 and pl. 9,1–2).

There is some possible evidence for the production of Thor's hammer pendants in Viking-age Britain and Ireland, in the form of a mould from the ruins of Whitby Abbey (as suggested by Wilson; see Graham-Campbell 1980, no. 2), but more certainly in the case of one from the Dublin excavations (Ó Ríordáin 1971, 73, fig. 21,d).[38] The only evidence for the production (and thus presumably the use) of cross-shaped pendants within the Danelaw, other than the examples in the Goldsborough and Bossall/Flaxton hoards, is provided by a lead-alloy model, of late tenth-century Scandinavian type, from York (Roesdahl *et al.* (eds) 1981, 116, 118, no. YMW13), together with the recent find of a related copper-alloy die at Swinhope, Lincs (J. Kershaw, in *Medieval Archaeology* 53 (2009), 337, fig. 5,b), both of which would have been used in the course of production of filigree-decorated cruciform pendants, with bird-head suspension loops.[39]

The latest pendant of Viking character in this catalogue is a Christian coin pendant, of mid-eleventh-century date: it is the only one of its type known from Britain and Ireland. This consists of a silver-gilt Danish coin, with simple suspension loop, which was metal-detected (in 1987) at Mildenhall, Suffolk (**41**; **Fig. 6.17**). The coin belongs to a series minted at Roskilde for Sven Estridsen, who was king of Denmark (1047–75). It was deliberately mounted with its cross-marked reverse as the display face, at right angles to its normal axis. Indeed, it has been noted of the Danish coin-pendant series that, whereas during the early eleventh century the perforation was 'placed in a seemingly random position' (Fornitz 1995, 100, no. 40):

> Towards the middle of the eleventh century there was a tendency to place the hole exactly at the end of an arm of the reverse cross, thereby stressing its function as a Christian symbol, while the legend still had absolutely no significance.

As Archibald has observed, it is likely that this coin 'arrived ready-mounted from Scandinavia' (1991c, 21, no. 11 and note 1), given that the fashion for coin-jewellery in England during the eleventh century was for coin-brooches rather than pendants (Archibald 1992, 149; Williams 2002).

To pick one other contemporary parallel for this imported pendant, it is apposite to note the exported coin minted at Lincoln, for Edward the Confessor (1042–66), found at Valþjófsstaðir in Iceland (Eldjárn 2000, 426). This is likewise mounted with a simple suspension loop, placed at one end of a cross-arm, so that its cross-marked reverse is also the display face, with the unseen king's head being sideways on (Holt, forthcoming, no. 360).

Ornamental pendants

The fine silver-gilt pendant metal-detected (in 1997) at Little Snoring, Norfolk (**40**), consists of a single Borre-style 'gripping beast', in openwork, within a roundel from which four animal heads protrude in profile (**Fig. 6.17**). This is unique in Britain and Ireland and will most probably have been imported into East Anglia from southern Scandinavia. Such pendants are, however, best known in central Sweden from the set of six in the Vårby hoard, which was deposited *c.* 940 (Graham-Campbell 1980, no. 163,1; Roesdahl and Wilson (eds) 1992, no. 27, fig. 6), and a set of four on an elaborate necklace in Grave 791 at Birka (Arbman 1940, pl. 98,30).[40] It is a representative of the so-called 'Norelund type' of Callmer's Group B pendants

Figure 6.17 Silver-gilt coin pendant (**41**), from Mildenhall, Suffolk (after West), and the silver-gilt, Borre-style, pendant (**40**) from Little Snoring, Norfolk

from Birka (1989, 24, 40–1, figs 3,10, 3,24–5 and 3,33), distinguished by the main animal's full-face head having protruding ears, at the base of the suspension-loop. It is, however, also well paralleled, in silver-gilt, at Hedeby (Capelle 1968, 108, no. 113, pl. 9,5), where the remains of a mould have also been found (Callmer 1989, 24). In addition, another fine silver-gilt example has recently been metal-detected at Kalmergården (Tissø), Sjælland (*Danefæ 1999*, 239; Jørgensen 2003, fig. 15,10.3). These discoveries, including the Little Snoring and Tissø pendants, demonstrate that the 'Norelund type' was not so markedly an 'East Scandinavian' fashion, as has previously appeared to be the case,[41] although the fact remains that the copper-alloy examples found in Norway and western Sweden represent the simplified variant (or so-called 'Skemo type'), which lacks the protruding ears (Petersen 1928, 140, fig. 159; Callmer 1989, 40, figs 3,24 and 3,33). Paterson has recently commented that:

> Finds of ninth- and tenth-century pendants, such as that from Tathwell [Lincs], are rare…Pendants appear therefore not to have been popular in the Danelaw, this form of jewellery possibly being regarded as old-fashioned after its *floruit* in the early Anglo-Saxon period' (2001, 195).[42]

Such rare metal-detected finds (and the related small disc brooches) do, at least, serve to provide a context for the much discussed pair of silver-gilt disc-shaped pendants from the female grave at Saffron Walden, Essex (**Fig. 6.12**), already noted for its silver beads and cruciform pendant (Evison 1969, fig. 3,a–b, pl. lxxi,a–b; Graham-Campbell 1980, no. 164). These are 'decorated with a unique version of a Borre-style knot-pattern, with zoomorphic elements, possibly made "within a few years of 900" (Wilson 1976, 506)' (Graham-Campbell 2001c, 114 and note 9).

The exception to Paterson's generalisation concerning the use of pendants in the Danelaw during the ninth to tenth centuries is provided by the fashion for Viking warriors and Scandinavian settlers to wear Thor's hammer or 'Valkyrie/warrior' ornaments because of their pagan amuletic significance. The latter is a new category of Danelaw find, being represented by a fine niello-inlaid silver pendant or appliqué of a human figure, bearing sword and shield, metal-detected from the area of Wickham Market, Suffolk (*Treasure Annual Report 2002*, no. 43),[43] with a related copper-alloy warrior-figure known from Donnington, Lincs (Leahy and Paterson 2001, 192, pl. 10.2).

As far as the Cuerdale hoard is concerned, it may be suggested that one of its silver filigree-ornamented fragments (**1:1,114**) is most probably derived from a small pendant (whether disc- or lozenge-shaped), as it would appear to have the remains of an integral suspension-loop. Duczko has described these, in the context of such finds from Birka, as being 'characteristic of the Nordic pendants of the Viking period' in Sweden (1985, 32). At the same time, it must be remembered that, even if not manufactured as an ornamental pendant, the Carolingian silver-gilt belt-mount (**1:1,117**; **Figs 6.18**, no. 99, and **7.8**) was fitted with a suspension-loop for use in this way, and that it is possible that the Carolingian silver-gilt buckle-loop (**1:1,116**; **Figs 6.18**, no. 100, and **7.8**) was also in secondary use as a pendant, with or without some (lost) modification, in the same manner that assorted belt-fittings were adapted for use on necklaces at Birka (Arbman 1940, pls 95–6).

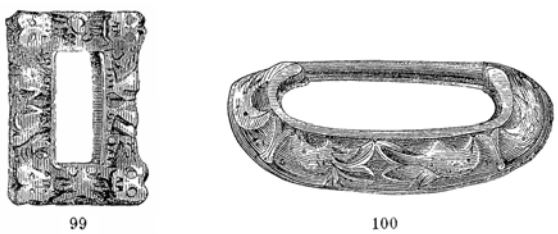


Figure 6.18 Carolingian silver-gilt belt-mount (no. 99) and buckle-loop (no. 100), from the Cuerdale hoard (cf. **Figs 2.3** and **7.8**)

The Halton Moor gold discs
Barry Ager

The mixed hoard from Halton Moor, Lancs, consisted of a silver-gilt Carolingian cup (**4:1**), discussed below by Egon Wamers (pp. 133–5), containing 860 coins (deposited *c.* 1025), a fine silver neck-ring (**4:2**), which has been discussed above as a Scandinavian artefact, and six gold discs or 'foils'. Four of these discs were 'distributed locally', together with 460 of the coins, but the remaining two reached London and are both preserved, one in the British Museum (**4:3**) and the other in Copenhagen (**4:4**), where it was identified by Edwards (1997).

These thin gold discs, both of which are slightly over 2.0cm in diameter, have repoussé decoration, struck with the same die, in the form of a crude human head in profile, facing left, within a border of thirty-five pellets between two concentric ridges (**Fig. 6.19**). They have a plain flange, which may have been intended to fit under a metal frame, but, in both cases, it is pierced on either side of the head, perhaps for attachment to something like clothing; however, these particular appliqués are without known parallel.

It is hard to suggest a model for the barbarous design in the absence of an inscription. It is, however, derived either directly from a Late Roman, German or perhaps Byzantine male coin-bust or, at second hand, from a late tenth- or early eleventh-century nummular brooch, as present in Scandinavian hoards of the period, where such busts, themselves often based on German coins copying Roman imperial-type portraits, occur in silver in both cast and repoussé form, facing both left and right (e.g. Stenberger 1947, 53–64, pls 207,1, 208,1 and 211,2; Hårdh 1976, no. 146,3; Graham-Campbell 1980, no. 135).

Although a little earlier in date, a single-sided coin imitation ('bracteate') in gold, dating possibly to the eighth or ninth century and inspired by a Roman solidus, is known from

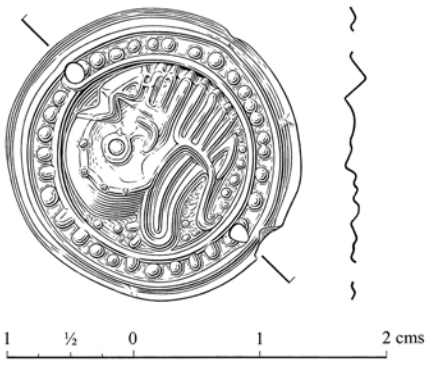


Figure 6.19 Gold disc (**4:3**), with repoussé decoration, from the Halton Moor hoard, Lancs

Friesland, with a beaded surround similar to later Anglo-Saxon nummular brooches of the tenth century (Boeles 1951, pl. 41,8). A comparable piece is recorded from Noardburgum, Friesland (Henstra 1998, pl. 12). The silver 'bracteates' set in broad frames of beading or twisted wires probably derive from the region of the Netherlands or north-west Germany. It is further worth noting that a copper-alloy Carolingian nummular brooch, of repoussé sheet and imitating a Roman coin of the later fourth century, has been found at Mainz (Berghaus 1994, pl. 68,200), while the British Museum holds a pair of Carolingian or Ottonian latten brooches from Boulogne (MME: 1878,0130.1–2), with repoussé busts imitating a solidus obverse of Libius Severus (461–65).

The coin-busts in question above resemble Roman representations with a wreath or diadem and so the triangle and hook, to be seen at the back of the Halton Moor head, possibly represents the bow and one end of the ribbon tying the head-gear into place.

By way of conclusion, the Halton Moor gold discs were originally made for attachment to some other item, although showing no signs of wear. No exact parallel is known for the bust, but it appears to be based ultimately on imperial coin-busts. The discs may have been produced in the late tenth or early eleventh century in north-west Germany, or perhaps more likely Friesland, where the only related gold 'bracteates' known to date occur.

Miscellaneous (non-Scandinavian) artefacts

The Halton Moor cup and the continental metalwork from the Cuerdale hoard are further discussed below by Egon Wamers, in Chapter 7, following consideration of the other non-Scandinavian artefacts from the hoards included in this catalogue (other than the material of Irish, Hiberno-Scandinavian and Anglo-Saxon manufacture so far considered in this and the previous chapter under 'Rings' and 'Brooches', as also 'Chains' and 'Wires' in the subsection on 'Beads (etc.)'. In fact, this leaves only some further Anglo-Saxon and possible Pictish silver from the Cuerdale hoard for discussion, as well as its bone pins and needle.

Anglo-Saxon silverwork

There is, in fact, little to add on the subject of the Anglo-Saxon ornamental metalwork in the Cuerdale hoard, the silver strap-end (**1:1,118**) being an example of the commonest ninth-century type (Wilson 1964, 62–3; Thomas 2000, Class A, 69–99), with characteristic Trewhiddle-style decoration (**Fig. 6.20**). The catalogue compiled by Thomas, in his unpublished PhD thesis (2000), listed twenty such Trewhiddle-style strap-ends which have their main panel divided into four decorative fields, commenting that the Cuerdale example (*ibid*., no. 539) is one of the three 'particularly fine exponents' of this variant (*ibid*., 87–8). Leslie Webster was the first to note that such strap-ends, on which the animal-head terminal has comma-shaped ears, have 'a predominantly northern distribution' (in Webster and Backhouse (eds) 1991, no. 248).

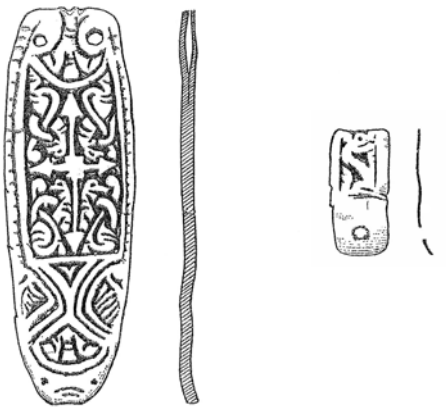


Figure 6.20 Anglo-Saxon silver strap-end and fragment of a mount (**1:1,118–19**), decorated in the Trewhiddle style, from the Cuerdale hoard

A fragment of an Anglo-Saxon mount (**1:1,119**; **Fig. 6.20**) is too small for definitive identification and its Trewhiddle-style animal motif is unremarkable, if distinctive. It has, however, been pointed out (Graham-Campbell 1970, 153) that:

> A very close parallel for the form of the Cuerdale strip is provided by the unornamented terminal of the second of the Trewhiddle horn-mounts (Wilson 1964, 187–8, no. 95, pl. xxxvii). This is of similar dimensions with rounded corners and an identically placed rivet-hole. The Cuerdale strip might well have served in some such manner as the vertical bronze strips with terminal rivets which were used to retain the rim-bindings of drinking-cups, like that from Sibertswold Down (Fausett 1856, 113, no. 69).

The remaining Cuerdale pieces for which a ninth-century Anglo-Saxon origin has been suggested (above) are the seven concentric rows of beading, presumably from the rim of a nummular brooch (**1:1,054**), a brooch-pin (**1:1,1055**; **Fig. 6.8**), and probably a fragment of twisted rod arm-ring (**1:707**; see p. 101).

It remains possible that the wire-knot (**1:1,1090**; **Fig. 6.13**, no. 78), with its closest parallels being those on the Trewhiddle scourge (Wilson 1964, no. 91), together with perhaps some of the Trichinopoly-work chain fragments (discussed above, p. 123; **Fig. 6.14**), may also be of Anglo-Saxon manufacture, but given that this wire-knitting technique was being practised by Irish silversmiths from the eighth century, it is safer just to characterise these as being of 'Insular' origin.

Pictish silverwork

There are two pieces of hack-silver in the Cuerdale hoard that may be considered to be of Pictish manufacture: the silver strip with interlace ornament (**1:1,120**; **Fig. 6.21**); and a fragment of a composite comb (**1:1,121**). Such cannot, however, be proven and some might, therefore, prefer to consider them in a broader Insular context. The fact remains, however, that the closest parallel for the manner in which the strip is decorated, with its

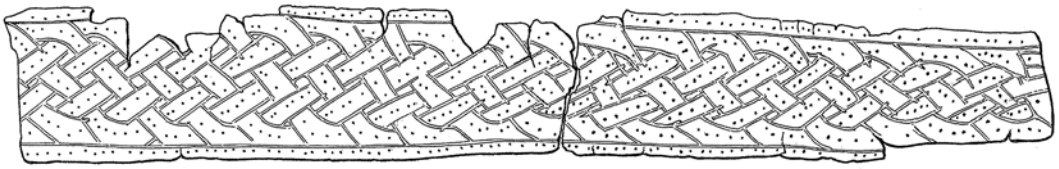


Figure 6.21 Silver strip with interlace decoration (**1:1,120**), from the Cuerdale hoard

combination of engraving and punching (Graham-Campbell 1985, 251–2), is most closely paralleled in Pictish silverwork (e.g. Wilson 1971, 129–30; Henderson and Henderson 2004, 109–11).

The silver comb fragment (**Cat. Fig. 29**), being part of a central plate from a composite, single-sided comb, appears to be a unique survival from this period, with certainly none such being known from Viking-age Scandinavia. Its attribution to a Pictish workshop is based largely on the fact that the only other recorded find of silver combs is in the lost hoard from the Broch of Burgar, Orkney, which has been dated to the late Pictish period (Graham-Campbell 1985, 252–3).[44] A variety of different comb-types were made and used by the Picts, including the composite single-sided variety (e.g. Curle 1982, 21–4, ill. 9–10; see now Ashby 2009; cf. Dunlevy 1988, for contemporary Irish comb-types).

Bone pins and needle

Three of the four bone pins (**1:1,154–7**), and the one bone needle (**1:1,158**), attributed (since the nineteenth century) to the Cuerdale hoard (**Fig. 6.22**), are distinctive enough to have been identified, by Edwards (1984), as being of Roman manufacture. He has identified **1:1,154** as Crummy (1979) Type 2, and both **1:1,156** and **1,157** as Crummy Type 3, suggesting that they derive from 'the soil of York', given that 'nowhere to the west would provide them'; at the same time, he noted that there was no point in searching for 'exact parallels for the needle' (Edwards 1984, 366). The headless pin (**1:1,155**) is likewise too simple to be characterised as either Roman or Anglo-Scandinavian, but this is anyway 'very much lighter in colour than the others and might well therefore be attributed a younger age' (Graham-Campbell 1987a, 342). Reference made to the York Archaeological Trust confirmed not only that 'Roman pins are commonly found as residual objects in Anglo-Scandinavian levels at York', but also that **1:1,154** is 'certainly Roman', whereas both the other two pins with heads and the needle were 'probably Roman'.[45]

The conclusion drawn by Edwards that 'such utilitarian pins' might have been used 'to close money-bags', presumably filled with York-minted coins (1984, 366), thus offers an entirely logical explanation for their probable presence in the Cuerdale hoard, even if there is no comparative evidence for this usage, although cloth containers themselves are known from some other hoards (see below).

Hoard containers

Information concerning the existence or otherwise of containers for the fifteen hoards included in this catalogue is for the most part sadly lacking or, in two instances, seemingly contradictory. Even in the case of the Halton Moor silver cup (**4:1**), already discussed, used as the container for the associated neck-ring, coins and gold discs, there is some uncertainty because it was said to have been 'cased with lead', without further description and with nothing of this 'casing' surviving. On the other hand, there is nothing to suggest that any of the single-finds catalogued here were lost or deposited in any sort of container, whether purse or bag. The hoard evidence may be tabulated as follows:

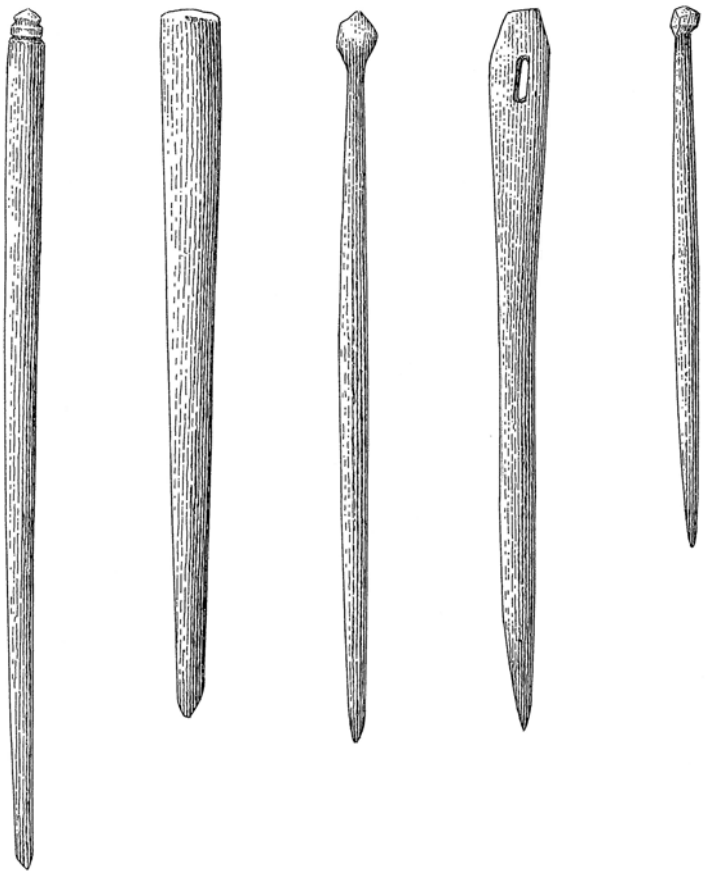


Figure 6.22 Bone pins and needle (**1:1,154–8**), from the Cuerdale hoard

1. Cuerdale, Lancs (*c.* 905–10)	lead (-lined?) container and cloth(?)
2. Flusco Pike, Cumbria	unknown (if any)
3. Goldsborough, Yorks (*c.* 925)	pot and/or lead container
4. Halton Moor, Lancs (*c.* 1025)	silver cup, 'cased with lead'
5. Lark Hill, Worcs (*c.* 1175)	cloth
6. Shotton Hall, Durham	unknown (if any)
7. Soberton, Hants (*c.* 1068)	pot
8. Nr Athlone, Co. Westmeath	unknown (if any)
9. Co. Cork	unknown (if any)
10. Scattery Island, Co. Clare	unknown (if any)
11. Unprovenanced (Ireland)	unknown (if any)
12. Ballacamaish, Isle of Man	unknown (if any)
13. Ballaquayle, Isle of Man (*c.* 970)	small slate cist
14. Inch Kenneth, Argyll (*c.* 1000)	unknown (if any)
15. Tiree, Argyll (*c.* 970)	cloth and/or pot
16. Unprovenanced (Scotland)	unknown (if any)

It is clear, therefore, that there is no information concerning even the presence or absence of a container for nine of these hoards. Such evidence as exists for the other seven hoards is contained in their catalogue entries, but is summarised here.

In addition to the Carolingian silver cup used to contain the Halton Moor hoard, there is now to be added that from the Vale of York (see below), whereas the coin hoard of Harold and William (deposited *c.* 1066/68) at Denge Marsh, Kent, is said to have been found in a (lost) 'silver pot with a lid and two small handles',[46] although a subsequent account converts this into 'an earthen vessel' (Metcalf 1957, 187 and 188).

The Goldsborough hoard (**3**) is described on two separate occasions, by the same author, as 'having been placed in a small leaden chest' and as having been found in 'an earthenware pot, which was immediately broken into fragments', the same fate that awaited the 'vessel of dingy red ware' which contained the Soberton hoard (**7**). The Tiree hoard (**15**) is variously described as having been found 'in an urn' and 'in some sort of cloth', although this does not exclude the possibility of a cloth-wrapped hoard having been buried in a pot. The best documented example of the use of a pot for the deposition of a tenth-century Viking hoard in Britain remains that in which the Chester hoard (*c.* 965) was found (Dunning, in Webster 1953, 31–2, fig. 3,a and pl. ix,a; Axworthy Rutter, in Mason 1985, 53). In Anglo-Saxon England, the mixed hoard found, in 1749, near Oakham, Rutland (deposited *c.* 980), is recorded as having been 'found in an urn' (or 'pot of earth'), which 'broke all to pieces' (Metcalf 1957, 196–7; Blackburn and Pagan 1986, no. 175), whereas the (1789) hoard from Oving, Sussex (deposited *c.* 1066), which included a (lost) silver disc brooch, is simply described as having been found in 'a pot' (Metcalf 1957, 198; Blackburn and Pagan 1986, no. 259), whereas the Stafford coin hoard (deposited *c.* 1040?) was reported in the *Staffordshire Advertiser* (13 December 1800) as 'contained in a small jug' (Robinson 1969, 22; Blackburn and Pagan 1986, no. 224). Likewise, the London (Walbrook) hoard, found in 1872 (deposited *c.* 1066/74), was said to have been in 'a coarse earthern urn' (Blackburn and Pagan 1986, no. 261; see above, p. 13).

It is of interest to note the suggestion that the 'coarse piece of cloth' which wrapped the Lark Hill hoard (**5**), also described as 'the linen cloth, or purse', had been 'carefully sealed up [with wax] previously to its being deposited', but this was during the late twelfth century. The use of linen cloth during the Viking Age in England for a purse or money-bag is evident from the (now lost) evidence for that which contained the Croydon hoard. This bag, closed with its string closure, was illustrated by Corbet Anderson (1877, 154); it had been buried (*c.* 872) in a stone 'coffin, or chest', which was 'without a lid'.[47] The use of coarse cloth has also been suggested for the deposition of part of the Spillings hoard, on Gotland, in this case in the form of re-used salt sacks, because of the nature of the differential corrosion of its outermost pieces of silver (Östergren 2008, 16).

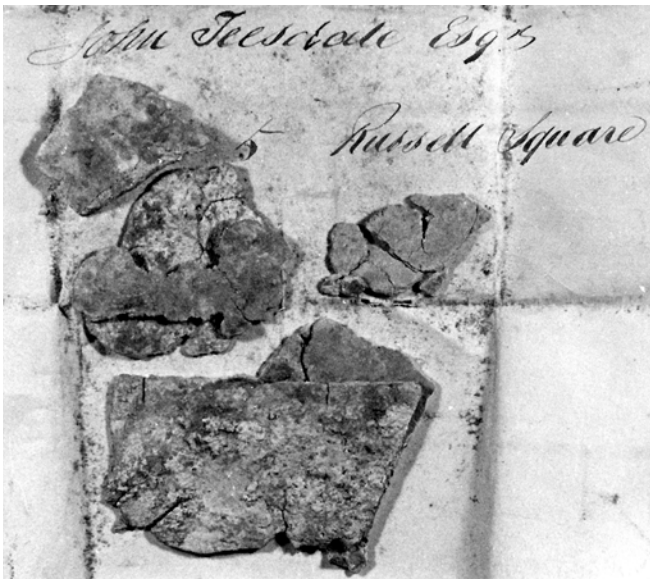


Figure 6.23 Fragments of lead (**1:1,159**), from the Cuerdale hoard (Assheton collection)

The Ballaquayle hoard (**13**) would definitely seem to have been deposited within a simple stone setting (despite an unsubstantiated report that it had been contained in 'an earthenware vessel'), for there exist two different, but contemporary, descriptions of its construction, the most detailed of which likens it to 'a miniature stone grave' (as variously reported by Quine (1901), Grueber (1913) and Megaw (1938); see the Catalogue entry, pp. 251 and 252). As a further contemporary example of this practice from Britain and Ireland, it may be noted that the large hoard deposited at Skaill, Orkney (*c.* 960–80), is said to have been placed within 'stones…set on edge in the form of a cist' (Petrie MSS, quoted in Graham-Campbell 1995, 124).[48]

The surviving fragments of the lead container of the Cuerdale hoard (**1:1,159**) display no recognisable features **(Fig. 6.23**), so it may or may not have formed the lining of a wooden chest, as suggested by Edwards (1984, 365; 1998, 54–5, fig. 29), or have served as the container in its own right. The further suggestion that it contained some cloth money-bags arises solely from the probable association of the bone pins and needle with the hoard (as discussed above), and their likely origin in York, although Edwards, who has argued this case, acknowledges the fact that 'no such practice is actually recorded' (1998, 66).

Crummy has recently observed (2004, 139–40),[49] with reference to the collapse of the Cuerdale lead 'chest' on removal, that:

Severe decomposition and fragmentation is a characteristic of excavated Roman pewter, rather than unalloyed lead, suggesting that this container was a recycled object, probably a vessel. It may, however, have been made from folded sheet lead affected by adverse burial conditions.

It is important to note, therefore, that analysis of a surviving piece of Cuerdale lead demonstrated it to be 'virtually pure lead with no interesting or useful impurities', which does not of course rule out the possibility of re-use of Roman lead. On the other hand, attention has been drawn to the particular choice of lead containers (or of lead sheet) for the storage and deposition of hoards during the early tenth century in northern England, the five or six relevant hoards being:

Cuerdale, Lancs	(*c.* 905–10)
Nr Huxley, Cheshire	(coinless)
Dean, Cumbria	(*c.* 915)
(?) Goldsborough, Yorks	(*c.* 925)
Bossall/Flaxton, Yorks	(*c.* 927)
Vale of York	(*c.* 927–8).[50]

It has been suggested that this 'might be explicable, in part at any rate, by the fact that Derbyshire was "by far and away the most important centre of lead workings" in late Anglo-Saxon England (Loyn 1991, 106), workings which would then have been under Danelaw control' (Graham-Campbell 1993a, 83).[51] In this context, it should also be noted that considerable evidence for Viking-age lead-working has been excavated in York (Bayley 1992, 810–14), where Roman lead would have been available to metalworkers, in addition to supplies from the resumption of mining. Whereas not much use was made of lead during the Early Anglo-Saxon period, lead vessels (vats or tanks) were being produced again from the Middle Saxon period onwards, such as the pair of vats used as container and lid for the tool hoard excavated at Flixborough, Lincs (Cowgill 2009).[52]

Notes

1 'Brambling', as a decorative technique, is described and illustrated in Chapter 8 (**Fig. 8.5**).

2 As part of the excluded hoard from Trewhiddle, Cornwall (deposited *c.* 868), the British Museum contains one further silver penannular brooch from the period under discussion (Wilson and Blunt 1961, 98–9, pl. xxviii,b; Dickinson 1982, 44, fig. 6,52).

3 Small 'thistle-brooches' with solid terminals continued to be produced in the tenth century, but these are mostly in the form of Norwegian copper-alloy copies (Graham-Campbell 1984, 31–2; 1987b, 238–42).

4 It may tentatively be suggested that one of these small pin-heads (**1:997**) derives from the same brooch as the small terminal (**1:998**), but this is only on the basis of a single detail (other than size): the use of a pair of incised lines to indicate the collar around a junction, as opposed to an actual moulding.

5 The Norwegian 'thistle-brooch' is a single-find from Sårheim, Gloppen, Sogn og Fjordane; the pin-head in the Swedish hoard is from Stävie, Ramsåkern, Skåne (Hårdh 1976, 64, no. 124,16, pl. 44,ii).

6 The one ball-type brooch fragment in the Vale of York hoard (deposited *c.* 927–8) is hollow-cast and plain (Ager and Williams 2009, 113, no. 217,6; 2011, 146, no. 6; Williams and Ager 2010, fig. 14; Ager 2011, 138, fig. 12).

7 This is the (2005) hoard from the 'Penrith area', referred to in Chapter 1, p. 5 (see also Gareth Williams, p. 69); in *Treasure Annual Report 2005/6*, the two brooch fragments are illustrated in fig. 310,2, where they are numbered 5 and 209, respectively.

8 There are two terminal fragments of bossed penannular A-brooch in the Vale of York hoard, deposited *c.* 927–8 (Ager and Williams 2009, 113, no. 217,4–5; 2011, 146, nos 4–5; Williams and Ager 2010, figs 14 and 21; Ager 2011, 138, figs 10–11); a terminal fragment from an A-brooch was metal-detected (in 2007) at Snape with Thorpe, North Yorks (*Portable Antiquities and Treasure Annual Report 2007*, 110, no. 208), and has been acquired by the British Museum.

9 It is unfortunate that the incorrect reconstruction of the Sandmúli fragment, as part of a pseudo-penannular brooch (first published in 1909), has once again been reproduced in the revised edition of Eldjárn (2000, fig. 272).

10 This is on the basis that its surviving ornament resembles most closely that of B1 (Graham-Campbell 1975, 36).

11 Although previously allocated by Graham-Campbell (1975, 36, 47) to his 'miscellaneous' category, it has, on further consideration of its surviving features, been tentatively re-classified here as deriving from a C/D-brooch with circular terminals (cf. D1 and 2).

12 These details can be best appreciated from the full-size illustration of the Hatteberg brooch in Graham-Campbell 1975, pl. viii,a, and from the enlarged colour photograph of the Rathlin brooch in Cone (ed.) 1977, pl. 50, although lacking its pin (Johansen 1973, fig. 59); the Rathlin brooch and pin are illustrated together in Wallace and Ó Floinn (eds) 2002, pl. 6,21.

13 Johansen's type 1 bosses are defined as being solid bosses cast together with, or onto, the brooch terminals (1973, 69). The only example cited by him of the former technique (A6: unprovenanced) has since been discovered to be a nineteenth-century reproduction (cf. Graham-Campbell 1975, 36), whereas the one example of the latter procedure (D1: Co. Westmeath?) is a notably crude specimen; but see now the detached Cuerdale pin-head (**1:1,026**), discussed in section (E), pp. 117–18.

14 I am most grateful to John Sheehan for discussing this find with me in advance of his own publication. These three brooch fragments, together with the rest of the contents of the hoard, which is coinless, place it within the group represented by the Cuerdale, Dysart (no. 4) and Goldsborough hoards, deposited during the first quarter of the tenth century (to *c.* 925).

15 Graham-Campbell's attempt (1975, 37–9) to argue, *contra* Johansen (1973), that A/E-brooches were cast and not hammered was rendered invalid by Janet Lang's demonstration, in the British Museum Research Laboratory, that one of the Cuerdale terminal fragments (**1:1,010**) displayed the crystalline structure typical of annealing and hammering, rather than casting (Lang and Graham-Campbell 1976). Others have since agreed that A/E-brooches were characteristically manufactured and decorated by hammering, chasing and engraving (e.g. Ryan, in Ryan (ed.) 1983, 148–50, nos 66–7; and in Youngs (ed.) 1989, 100, no. 82, and 103–4, no. 89).

16 From Fossemsveet, Ogndalens s., Sparbu pgd., Nord-Trøndelag (*Det Kongelige Norske Videnskabers Selskab Museet Årbok 1954*, 121–2, fig. 8,a–b).

17 Graham-Campbell (1972, 125) failed to attempt even a description of this curious motif, whereas Youngs (in Youngs (ed.) 1989, 103) opted for 'ribbed spandrels'.

18 I am grateful to John Sheehan for drawing my attention to what is possibly a hoop/terminal-knob from a further example of such a brooch in the Dysart (no. 4) hoard, Co. Westmeath , deposited *c.* 910 (Ryan *et al.* 1984, 341–2, no. 111, pl. 9,6), but see above, p. 109, note 6 for an alternative interpretation of this fragment.

19 Although the term 'disc brooch' is to be found used for all Late Saxon circular brooches, it is properly confined to the one-piece types (I am grateful to Leslie Webster for her guidance in this matter).

20 Petersen (1940, 71) dated this male burial to the tenth century; however, as currently displayed in Trondheim Museum, it is labelled as dating from the ninth century.

21 The only known illustration of this find is this photograph, on file in the Department of Prehistory and Europe, British Museum, which was presumably taken when W. Gray brought the hoard to the Museum (in October 1905), while it was in the possession of Sir Hugh Smiley, Larne (cf. Gray 1907).

22 A further silver bead forms part of a composite object in the Vale of York hoard, deposited *c.* 927–8 (Ager and Williams 2009, 113, no. 217,9; 2011, 147, no. 9; Williams and Ager 2010, 25, fig. 14; Ager 2011, 20, fig. 20).

23 I am grateful to Egon Wamers for drawing my attention to the use of filigree-ornamented beads on ear-rings in the ninth-century hoards from Féchain, Nord, and Camon, Somme (Périn and Feffer (eds) 1985, nos 149 and 150).

24 I am most grateful to Dr Niamh Whitfield for examining this chain on my behalf, together with Nigel Meeks (British Museum), who took the SEM photograph (**Fig. 6.14**).
25 These parallels from Norway were overlooked by Graham-Campbell in his (1995) publication of the Ballinaby pin and chain.
26 I am grateful to Leslie Webster for this observation (pers. comm.).
27 This metal-detected single-find, which clearly belongs to this group of material, was dated '?19th century', during the Treasure process (*Treasure Annual Report 2003*, no. 306).
28 Indeed, it would now seem more probable that these particular wire balls/cones represent an Irish Sea fashion, rather than being themselves of Anglo-Saxon workmanship, as previously suggested by Graham-Campbell (2002c, 89). Of particular significance in this connection is the gold, bun-shaped, wire ball from Carlisle, woven in a ring-chain pattern to terminate a plaited chain (Whitfield 2006, fig. 1.7). I am grateful to Raghnall Ó Floinn for the information (pers. comm.) that another example is known from Ballynameela Cave, Co. Waterford.
29 This silver pin and chain, first recorded in the sale of the collection of Robert Day of Cork (Sotheby's, 19–22 May 1913, lot 276, pl. xviii), is now in the Walters Art Gallery, Baltimore (Ross 1961, 108, no. 52).
30 'Three or four Thor's hammer pendants (one fragment in silver and two or three in lead)' have been recorded from Torksey (Blackburn 2011, 233, fig. 3,f).
31 Jensen completed his data collection in 2005–8 (2010, ii); fuller discussion will also need to take account of antiquarian evidence for possible finds of hammer-shaped pendants in both Scotland and Ireland, in addition to the iron neck-ring with hammer-pendant from a female Viking-age grave at Gurness, Orkney (Graham-Campbell and Batey 1998, 128, 146 and 148–9).
32 Information on the Surlingham pendant from Tim Pestell (Norwich Castle Museum), and that from near Holt (found in 2005) seen at the British Museum during the Treasure process; for a selection of the Thor's hammer pendants from Norfolk, see Hall 2007, 107.
33 The fake Thor's hammer 'reputedly' found near Carlisle, in the British Museum (MME: 1990,0101.1), is here identified as such in Appendix 1.
34 The unprovenanced silver hammer (Handlist no. 3) also has stamped decoration (Tim Pestell, pers. comm.).
35 The Anglo-Saxon cross-pendant in the hoard from Gravesend, Kent (deposited *c.* 871), is excluded from discussion here for the reasons given in Chapter 1 (pp. 16–17).
36 This letter, dated 12 November 1807, was written by Robert Belt of Bossall and published in the *Gentleman's Magazine* (1807), 1105–7, under the pseudonym *Amicus*.
37 A cross-pendant from a grave at Kaupang, Norway, is similar in form to that from Saffron Walden, but although disc-shaped it does not form a complete roundel (Staecker 1999, 96, fig. 28).
38 It is also possible that some of the lead Thor's hammers now also known from England might have been used during the manufacturing process of those cast in silver (Tim Pestell, pers. comm.).
39 The York example was wrongly catalogued (1981) as a 'matrix', in error for 'patrix', when thought to have been used for making moulds for casting dies, rather than for impressing sheet gold or silver itself (cf. Armbruster 2004, with refs). I am most grateful to Jane Kershaw for having brought the Swinhope die to my attention in the first instance.
40 This necklace includes some of the silver spiral beads from Birka, noted above (Arbman 1940, pl. 114,11).
41 Callmer was able to list and map a total of twenty-four 'Norelund-type' pendants, from twelve locations (1989, 40–1, fig. 3:33); thirteen of these are of silver, including one in the hoard from Gnezdovo, Russia, which has a *tpq* of 953/4 for its deposition (Roesdahl and Wilson (eds) 1992, 307, no. 304).
42 The copper-alloy pendant from Tathwell, Lincs, is of Scandinavian origin (Paterson 2001, 195, pl. 10,6), belonging to Callmer's Group A2 (1989, 23, 38, figs 3,5 and 3,30). In her earlier MLitt thesis, Caroline Paterson (née Richardson) was only able to cite one such pendant (other than those from Saffron Walden), this being a further import of a related type from Scandinavia, found at Ruskington, Lincs (Richardson 1993, 50–1); a small number of additonal finds of Anglo-Scandinavian/Scandinavian metal-detected pendants from England have since been catalogued by Jane Kershaw in her recent DPhil thesis (2010). The acquisition by the British Museum (in 2001) of a silver filigree-ornamented face-pendant found near Bridlington, East Yorks, has been noted above (p. 19, note 29).
43 Now in Ipswich Museum.
44 The recent suggestion that the hoard from the Broch of Burgar 'may have been accumulated, partly from Pictish loot, by a Viking family' (Ritchie 2003, 8) fails to address, in any detail, the arguments to the contrary advanced by Graham-Campbell (1985), most notably the fact that there is no evidence to suggest that it included anything resembling the contents of any known hoard of definite Viking character either from Britain and Ireland or from Scandinavia (cf. Graham-Campbell 1995). The same objection applies to Ritchie's complementary suggestion that the contents of the St Ninian's Isle, Shetland, hoard 'could be the fruits of a Viking raid on eastern Scotland' (2003, 9), with no attempt made to explain its careful burial in a wooden box beneath a cross-marked slab inside a Pictish chapel, let alone the presence, in the box, of part of the jaw-bone of a porpoise (cf. Graham-Campbell 2002b; forthcoming).
45 Information from Dominic Tweddle, in consultation with the Trust's Roman Finds Specialist (pers. comm., 6 January 1986).
46 Metcalf (1957, 187) is here quoting from the Society of Antiquaries of London 'Minute Book' iii, for 22 November 1739, p. 251.
47 This bag is also to be seen in a nineteenth-century photograph of the hoard (Graham-Campbell 2011c, figs 19–20). The presence of Anglo-Saxon hooked tags in a number of hoards from this period (e.g. Tetney, Lincs; Wilson 1964, nos 86–7), although none in this catalogue, has also been taken as evidence for their deposition in cloth bags or purses fastened in this way (cf. Graham-Campbell and Okasha 1991).
48 The containers used for Viking-age hoards in Scandinavian Scotland also included a wooden vessel and cattle horns (Graham-Campbell 1995, 59–60).
49 Crummy's (2004) article is primarily concerned with the re-use of a Roman lead canister as a thirteenth-century hoard container/floor-safe in Colchester.
50 The fragments of lead sheet were found above and not under the Vale of York hoard, and so (if from a vessel) this container had presumably been inverted to provide protection for the silver cup and its contents when placed in the ground (Ager and Williams 2009, 113–14, no. 217,68 and (?) 69–76; 2011, 153, no. 68, with (?) nos 69–76; Williams and Ager 2010, 13–14; Ager 2011, 132–3).
51 In 714, when St Guthlac lay dying, the Abbess of Wirksworth, Derbyshire, is said to have sent him a lead coffin (Colgrave 1956, 146–7, ch. xlviii).
52 Cowgill 2009 (incorporating Cowgill 1994) provides an up-to-date survey of Mid/Late Saxon lead vessels, their methods of manufacture and the lead industry (if excluding the finds under discussion here); see also, now, the lead vat or tank, with elaborate decoration, metal-detected in the Corby area, Northants (*Portable Antiquities and Treasure Annual Report 2007*, 109, no. 207).

CHAPTER 7

The Halton Moor Cup and the Carolingian Metalwork in the Cuerdale Hoard

Egon Wamers

The Halton Moor Cup (4:1)

Iconography

The four roundels on the Halton Moor cup (**Fig. 7.1**) alternate depictions of two different animals (**Fig. 7.2**), which may be identified as a lion and a unicorn by reference to the Crucifixion scene in the Stuttgart Psalter (Württembergische Landesbibliothek Stuttgart, bibl. fol. 23), f. 27r, where these animals attack the left-hand side of the crucified figure of Christ (**Fig. 7.3**). This unicorn has more details in common with the animal on the cup than do the bulls in the Psalter, which are usually shown with genitals and two horns, even in profile (e.g. ff. 26r, 76v lower and 117r; see Mütherich (ed.) 1968, for the facsimile edition). Between these two animals is a chalice with foliate decoration. On the other side of the cross are two soldiers, with – below them – two men struggling for Christ's garment, before cutting it up. This is an illustration for Psalm 22 (verses 16–21), transferred to the Passion in Christological exegesis:

> 16. For dogs have compassed me: the assembly of the wicked have inclosed me: they pierced my hands and my feet.
> 17. I may tell all my bones: they look and stare upon me.
> 18. They part my garments among them, and cast their lots upon my vesture.
> 19. But be not thou far from me, O LORD: O my strength, haste thee to help me.
> 20. Deliver my soul from the sword; my darling from the power of the dog.
> 21. *Save me from the lion's mouth: for thou hast heard me from the horns of the unicorns.* [author's italics]

Likewise, the animal (dog) heads that sprout from the acanthus plants, which are interspersed with the roundels on the cup, relate to the image in the Stuttgart Psalter (f. 26v) immediately before the Crucifixion scene, also illustrating Psalm 22 (verse 16): 'For dogs have encompassed me … they pierced my hands and feet' (**Fig. 7.4**). In the Psalter, a figure is shown being attacked by five dogs, biting his hands, feet and right leg. On the Halton Moor cup this scene is transformed into decoration in which the acanthus plant represents Christ – as the 'Tree of Life' – according to the Christological interpretation of the psalm. The fact that the dogs' heads, which are strikingly similar to the ones in the Psalter, sprout out of plants could have been just a whim of the silversmith, but it is more likely that this design provides a good demonstration of the extent to which, during the early medieval period, what might otherwise be considered as no more than 'simple ornament' may in reality represent, in an abbreviated form, the outcome of extensive knowledge and deep thought (cf. Elbern 1967).

The Vale of York cup[1]

A closely comparable vessel to the Halton Moor cup has recently been discovered (2007), forming part of the Vale of York hoard (**Fig. 1.8**); as described briefly above (pp. 10 and 69), this is one of the richest hoards known from Viking-age Britain, deposited *c.* 927–8. The cup (H 9.2; D max 12.0cm) is likewise made from a piece of fire-gilt silver, with chased and punched surface decoration; it would probably have had a lid, but this is now missing (*Portable Antiquities and Treasure Annual Report 2007*, 112, no. 217,1; Williams and Ager 2010, 14–17, figs 5 and 8; Ager and Williams 2011, 145, no. 1). The main frieze consists of six roundels (cf. Halton Moor's four), each containing a quadruped, separated by narrow acanthus palmettes. According to the preliminary descriptions, the quadrupeds represent: (i) a pair of lions – male and female (Ager 2011, fig. 5); (ii) a pair of deer – stag and hind; and (iii) a horse and a doe-like animal. Some of them have their head turned backwards; others have their gaze raised slightly upwards. It is highly likely that the scenes on the cup are paralleled in the Stuttgart Psalter, on folio 162r, which illustrates Psalm 148 (verses 1–10):

Figure 7.1 Carolingian silver-gilt cup (**4:1**), from the Halton Moor hoard, Lancs

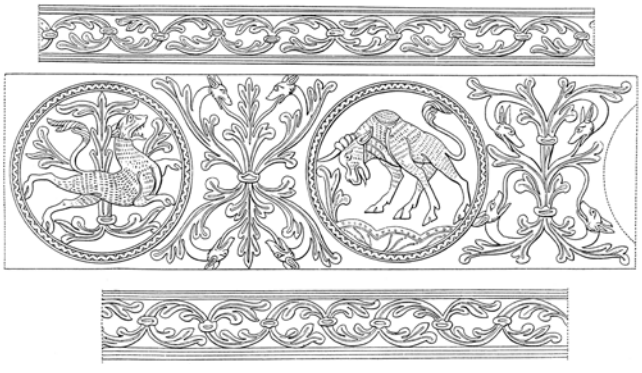


Figure 7.2 Extended drawing of the ornament on the Halton Moor cup (James Basire: after Combe)

Figure 7.3 The Crucifixion, as depicted on f.27r of the Stuttgart Psalter

Figure 7.4 Image of dogs attacking a human figure, on f.26v of the Stuttgart Psalter

> 1. Praise ye the LORD. Praise ye the LORD from the heavens: praise him in the heights.
> 2. Praise ye him, all his angels: praise ye him, all his hosts.
> 3. Praise ye him, sun and moon: praise ye him, all ye stars of light.
> 4. Praise him, ye heavens of heavens, and ye waters that be above the heavens …
>
> 7. Praise the LORD from the earth, ye dragons, and all deeps:
> 8. Fire, and hail; snow and vapour; stormy wind fulfilling his word:
> 9. Mountains, and all hills; fruitful trees and all cedars:
> 10. *Beasts and all cattle; creeping things, and flying fowl* …
>
> 13. *Let them praise the name of the LORD*: for his name alone is excellent; his glory is above the earth and heaven. [author's italics]

The illustration depicts, below the line *laudate eum in excelsis*, the heavenly Christ surrounded by two angels, with the sun, moon and stars. Below him are birds of various kinds, a pair of lions and a horned goat, all with their heads turned back; further down, on the left, two creeping snakes are to be seen, one of which spews fire. All the animals, except one snake, have their gaze raised towards Christ, with their mouths or beaks open, evidently praising the Lord.

Admittedly, the animal species on the Vale of York cup are restricted to various quadrupeds, with birds, fish and reptiles all missing, presumably for artistic/aesthetic reasons. The differing orientations and head postures of the six animals are arranged in such a manner that a common line-of-sight is established, with the stag and lion both unambiguously looking upwards. Their focus of attention may be surmised to have been the original lid, which may have had a cross-shaped knob for a handle, or some other symbolic, or even figural, depiction of Christ.

There is a related, contemporary, illustration of Psalm 148 in the Utrecht Psalter (f. 82v), demonstrating that, during the ninth century, there existed a fixed image-tradition (of 'Praise the Lord') to illustrate this psalm, which nevertheless contained a flexible canon of elements comprising various species of animal, in the form of pairs turned towards Christ.

Comparisons and chronology

The Halton Moor and Vale of York cups belong to a small, but uniform, group of Carolingian silver-gilt vessels with decoration dating from the second half of the eighth century (Fejø, Pettstatt, Ribe), through to the second half of the ninth century (the 'London pot'), which have been thoroughly discussed by Wilson (1960) and, more recently, by Wamers (1991a; 1991b; 2003; 2005).[2] They were made within the borders of the Carolingian empire, from the region of the Alps to the West Frankish area, but may go back to Byzantine vessels (cf. the morphology of early Byzantine thuribles: Elbern 1970; 1971; Wamers 1983; and of chalices: Elbern 1963; Weitzmann (ed.) 1979, *passim*).

The stylistic correspondence between the Halton Moor and Vale of York cups, together with the lid in the Metropolitan Museum of Art (see below, p. 135), is so close that all three must have come from a single workshop. Furthermore, their very close congruence in both style and motifs with the Stuttgart Psalter suggests that they date from *c.* 820–50 (cf. Mütherich (ed.) 1968, II, 25, where the Psalter is dated to *c.* 820–30), which fits well with the style of their acanthus ornament (Fraenkel-Schoorl 1978; Wamers 1981; 1983; 2008). The Halton Moor cup was, therefore, some 200 years old when it was deposited in north-west England (*c.* 1025), and even the cup forming part of the Vale of York hoard was about 100 years old when deposited in north-east England (*c.* 927–8).

Function

The function of these small cups, both originally and secondarily, is still open to discussion. In the Scandinavian and eastern European finds, they are often associated with four to seven smaller plain cups, which lead Wilson to propose (1960, 171f.) a secular use for such vessel sets: 'at table … and that the large cup acted as a jug' (cf. Haseloff 1977, 139f.).[3] The fact that such a cup as the Halton Moor example was not in fact designed for pouring does not make its use at table any less convincing in a secondary Viking context.

On the other hand, the Fejø, Ribe, Halton Moor and Vale of York cups are all, without doubt, decorated with abbreviated versions of complex depictions of early Christian iconography (Wamers 1991a; 1991b). Similar decorative schemes on liturgical vessels, such as chalices, have been analysed as deeply thought-out designs conveying Christian messages (Elbern 1963). As described above, the Halton Moor cup represents Psalm 22: the cry to be saved from the lion and the unicorn (and the 'encompassing' dogs), being an allegory of the Passion. Elbern has demonstrated (1963, 139f.) that the chalice between the lion and unicorn on f. 27r of the Stuttgart Psalter symbolizes not only the *fons vitae/salutis*, but also the baptismal font, both donating eternal life.[4]

The fact that the Halton Moor cup depicts this menacing by lions, unicorns and dogs demonstrates that it is also intended to assist in giving eternal life. The Fejø cup bears a schematic 'architecture' of a circular building, with twelve doors and twelve foundation-stones, containing depictions of the eagle, dove, *agnus dei* and 'tree-of-life', together constituting a visualisation of the 'New Jerusalem' of St John's revelation (Wamers 1991a, 117–23, figs 14–18).[5] The Ribe cup and the 'London pot' likewise use 'trees-of-life' to symbolise Paradise. It is hardly imaginable that these four cups (as also that from the Vale of York) could originally have been intended purely for secular use.

They do not, however, correspond to the morphology of early medieval chalices, as known from both surviving examples and contemporary illustrations, which had to have a cup, knop and foot (Braun 1932; Elbern 1963; 1995; 1998; Ryan 1990). These small silver cups cannot therefore have served as chalices.

Given that the 'London pot' in the British Museum (Dalton 1909; Read and Tonnochy 1928, 37–8, no. 98, pl. lvi, right; Wilson 1960, 157f., fig. 12; Wamers 1991a, 134–5, fig. 26), which is shaped exactly like the other ones, has a cover with a knob, and that a second such lid, of unknown provenance, survives in the Metropolitan Museum of Art, New York (no: 17.50.407; Wamers 1991a, 138, fig. 29), it is most probable that the other cups originally also had lids, which they have lost during the course of time.

From the early Christian period in the East Mediterranean, a number of silver and ivory boxes with covers (*pyxides*) survive, which are assumed to have served as containers for consecrated bread, chrism or incense (Weitzmann (ed.) 1979, nos 514, 518–20, 534, 549–50 and 573; Mundell Mango 1986, nos 17, 70 and 83; Duffy and Vikan 1983; Wamers 2003). On the ivory diptych leaf of the Symmachi (Rome, AD 388–401; Weitzmann (ed.) 1979, no. 166), a priestess is shown scattering incense onto a fire, on an altar, from a small box with a lip very reminiscent of the Halton Moor cup-series.

The liturgical character of these particular 'cups' is without doubt. They may thus have reached the north during the Viking Age either as gifts, for example during such early missions as those of Ebo or Ansgar (cf. Rimbert, *Vita Anskarii*), or as loot from Viking continental raids.

Conclusions

Given the apparent origin of the two *pyxides* from Halton Moor and the Vale of York in one and the same workshop, and their very close congruence in both style and motifs with the Stuttgart Psalter, it may be surmised that they were produced at the monastery of St-Germain-des-Prés, between about 820 and 850. Whether they were also in use there, when they fell into Viking hands during the ninth century, cannot be ascertained; however, it seems likely that this would have been on the same occasion, presumably during one of the sieges and destructions of Paris. This could have been, for instance, in 845, when the monastery at St-Germain-des-Prés was looted – albeit only after the monks are said to have taken their entire church treasure to safety. Or maybe in 861, when the monastery was again assailed by raiders, while Mass was being said; church and monastery were completely plundered and burned down. Payments of large amounts of silver to the Norsemen always followed in the wake of such events (Vogel 1906, 107f., 182f.).

Carolingian filigree fragments from the Cuerdale hoard (1:1,056–7)

Equal-armed brooches: typology and ornament

Two silver filigree fragments in the Cuerdale hoard (**1:1,056–7**) appear to be from the same object – a Carolingian equal-armed brooch (**Figs 6.9** and **7.5**; **Cat. Fig. 26**). A third fragment (**1:1,067**) is decorated with filigree ornament of similar type to that on the other two fragments, although its small size precludes any definitive judgement. Even if not from the same object, its flattened mushroom-shaped granules, with beaded collars, set in rows, seem to indicate that all three pieces share the same cultural origin (for an alternative identification of this piece, as the crushed fragment of a globular bead, see above p. 122).

The type of equal-armed brooch represented by the two larger fragments is best illustrated by the complete example from Domburg, in the Netherlands (Roes 1954, pl. xv,8; Capelle 1976, no. 66), and that (**Fig. 7.6**) in the hoard from Lerchenborg, Sjælland (Skovmand 1942, 107–8, no. 42:3, fig. 24: Wamers 1994b, 15f., fig. 15,2; Wamers, in Wamers and Brandt (eds) 2005, 113–14, no. 34).[6] They have a median bow and slightly expanded arms, with similar filigree work. This takes the form of twisted wires, transversely laid one on top of two, with loops formed along the borders to surround substantial granules, which also cover the whole surface (in the manner depicted in **Fig. 7.5**). On the Lerchenborg brooch (**Fig. 7.6**), there are also filigree cones, topped with a granule. There are fragments of further such brooches known from two Swedish hoards: Bräcke, Brunnby, Skåne (Hårdh 1976, 38, no. 28, pl. 26:I,28); and Eketorp, Närke (Ekelund 1956, fig. 21). Some simpler examples with cast or engraved ornament have been found at Domburg (Capelle 1976, nos 62, 64–5, 80 and 101, with no. 78

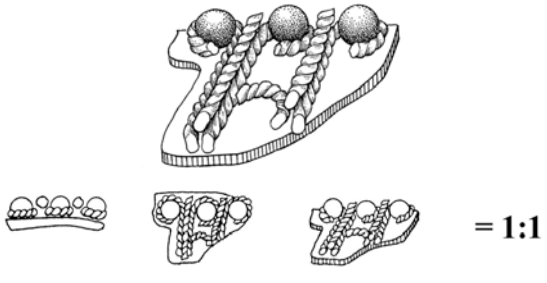


Figure 7.5 Schematic drawing of a fragment of a silver filigree-decorated equal-armed brooch (**1:1,056**), from the Cuerdale hoard

Figure 7.6 The mixed hoard from Lerchenborg, Sjælland

being a variant form). A lead-alloy imitation, in the form of a failed casting, has been excavated at Coppergate, York, from a Period 4B build-up deposit, dating to *c.* 930/5–*c.* 975 (Roesdahl *et al.* (eds) 1981, 107, YD18; Bayley 1992, 780, no. 4147, fig. 340; Mainman and Rogers 2000, 2475, no. 4147, fig. 1197).

A variant type of silver filigree-decorated equal-armed brooch has more expanded arms. Two complete examples are known from Scandinavia: that from Grave 606 at Birka, Uppland, Sweden (Arbman 1937, pl. 63,8; 1943, pl. 83,1; Duczko 1985, 91, fig. 121; Wamers 1994b, 15f., fig. 15,1); the other being a single-find from Sogge, Møre og Romsdal, Norway (Petersen 1928, 136, fig. 153). These have filigree cones, spirals and rings, with granules. Two fragments of this brooch type, with filigree plant ornament, are known from hoards discovered in Skåne: Ramsåkern, Stävie (Hårdh 1976, 64, no. 22, pl. 44:II,22); and Raus, Pålstorp, no. 6 (*ibid*., 60, no. 15, pl. 41:III,15; Duczko 1985, 91). A single cast brooch of poor silver, with engraved triquetra- and cross-patterns, is known from the cemetery of Lamøya near Kaupang, in Vestfold, Norway, but this may well be a local imitation (Blindheim *et al*. 1981, 85f., figs 1–2, 137f., pl. 55,2).

The Cuerdale brooch fragment has cones formed from two or three filigree rings, with a granule on top, representing an enhancement of the single collared granule (as **Cat. Fig. 26**). These are characteristic for the rivets on Carolingian ornamental mounts with so-called '*Perlrandnieten*', from the eighth century onwards (e.g. Stein 1967, pls 68,2, 78,1–3, 87,1 and 3–8; Giesler 1974, pl. 36,1–2, fig. 1,3). The use of such filigree cones, often formed from spirals, continues into the ninth century (Wamers 1999b, 14–19), e.g. on equal-armed brooches and on the mount from the *Bootkammergrab* at Hedeby (Müller-Wille 1976, figs 44,2 and 45,2–3),[7] with a great *floruit* in the art of the Ottonian goldsmith (e.g. von Falke 1913, *passim*, fig. 9,22; Rosenberg 1918, fig. 257; Vierck 1984, 390f., fig. 189,7).

Equal-armed brooches: chronology and distribution

Equal-armed brooches of this type are of continental origin, where they derived, in the late Merovingian and Carolingian periods, from Mediterranean prototypes (Wamers 1994a, 588–9; Thörle 2001, 179f.). Their distribution is north-west Frankish, in the Meuse/Lower Rhine area, apart from those found in Viking contexts.

The silver filigree types flourished during the period from the second half of the ninth to the beginning of the tenth century (Wamers 1994a, 588–9, fig. 176; 1994b, 15f.; Thörle 2001, 181f.). However, f.125r (**Fig. 7.7**) of the Stuttgart Psalter (*c.* 820–30) seems to represent a man wearing an equal-armed brooch of the Cuerdale type (Wamers 1994a, pl. 32,2), thus demonstrating their existence already in the first half of the ninth century. The Viking graves and hoards containing such decorated equal-armed brooches provide somewhat later dates of deposition.

The hoard from Lerchenborg (**Fig. 7.6**) contains a pair of oval brooches of type P51a (Petersen 1928, fig. 51,a), and a *Christiana-Religio* coin of Louis the Pious (pierced for use as a pendant), and thus dates to the second half of the ninth century

Figure 7.7 Depiction of a man wearing an equal-armed brooch, on f.125r of the Stuttgart Psalter

(cf. Skaare 1966; Jansson 1985, 174f., 182; Wamers, in Wamers and Brandt (eds) 2005, 113–14, no. 34). Both the graves at Birka and Lamøya, with brooches with expanded arms, contained oval brooches of type P42, which likewise dates them to the same period.

The silver hoards contain only brooch fragments, with Cuerdale itself providing the earliest deposition date of *c.* 905–10. The *terminus post quem* for the deposition of each of the four Swedish hoards is: Bräcke, Skåne, 925 (Hårdh 1976, 37); Raus, Skåne, 918 (?936) (*ibid*., 60); Ramsåkern, Skåne, 955 (*ibid*., 64); and Eketorp, Närke, 954/62 (Wamers 1984, 99). Given that the complete brooches in the graves may well have been deposited earlier than the fragments in the hoards, one might suppose that the lifetime of these two types of equal-armed brooch, with straight and expanded arms, extended throughout the second half of the ninth century (cf. also Duczko 1985, 91), without its being possible to distinguish between the two types by date. The same date is indicated by a hoard from Muysen, Brabant, Belgium, which contains a pair of equal-armed brooches with a rounded bow and circular terminals (de Loe 1910, 75, fig. 3), as also that from Féchain, Douai, France, which has an equal-armed brooch with chip-carved foliate patterns (Périn and Feffer (eds) 1985, 416f., no. 149, and 82, col. pl.); cf. also the hoard from Camon (*ibid*., 419, no. 150, and 383, col. pl.).

The distribution of equal-armed brooches of the Cuerdale/Lerchenborg/Domburg type and the related Birka/Sogge type demonstrates that they spread through Viking graves and hoards in a similar pattern to other Carolingian jewellery (Wamers, in Wamers and Brandt (eds) 2005, 114f., with map, fig. 39), most of which has been found within the territory of what was Viking-age Denmark. The Cuerdale brooch (fragments) most likely reached north-west England from western Frisia or northern France, but one cannot exclude the possibility that the brooch arrived there by way of Scandinavia, or maybe even York, where there has been found not only the lead reproduction mentioned above, but also two Frisian 'caterpillar-brooches' (Mainman and Rogers 2000, 2571, nos 10426–7, fig. 1266), which might have arrived there together with lava quern-stones (*ibid*., 2547–52) and continental pottery, of ninth/tenth-century date (Roesdahl *et al*. (eds) 1981, 126, YTC1–4; Mainman 1990, 477–84), as well as further jewellery (Roesdahl *et al*. (eds) 1981, 127, YTC17; Mainman and Rogers 2000, 2568, no. 10424, fig. 1265), by way of trade or in the company of other trade-goods (cf. Hall 1994, 83–8).

Carolingian belt-fittings from the Cuerdale hoard (1:1,116–17)

Silver-gilt buckle-loop

This silver-gilt buckle-loop (**1:1,116**; **Fig. 7.8**) corresponds very well, in terms of material, form and decoration, with continental buckles of the Carolingian period, dating from about the ninth century (Wamers 1981, 102). Parallels include the fragment from Östra Påboda in Småland, Sweden (*ibid*., figs 4–5), and Kolín, Bohemia (Capelle 1968, 237, fig. 5,3–6); they are also known from Viking contexts in the west, as in the boat burials at Balladoole, Isle of Man (Bersu and Wilson 1966, pl. viii,b), and Île de Groix, Brittany (Müller-Wille 1978, fig. 6,3).

The decoration of Carolingian belt-fittings consists generally of plant ornament of the type belonging to the so-called 'Carolingian Renaissance' or *Renovatio*. Less frequent, but clearly increasing towards the end of the ninth century (cf. Wamers 1986, 39f.; 2005; 2008, 47–9), are depictions of animals, often within plants so as to form 'inhabited plant-ornament', symbolising the 'tree-of-life'. Pecking birds are, for example, to be seen on a silver-gilt mount

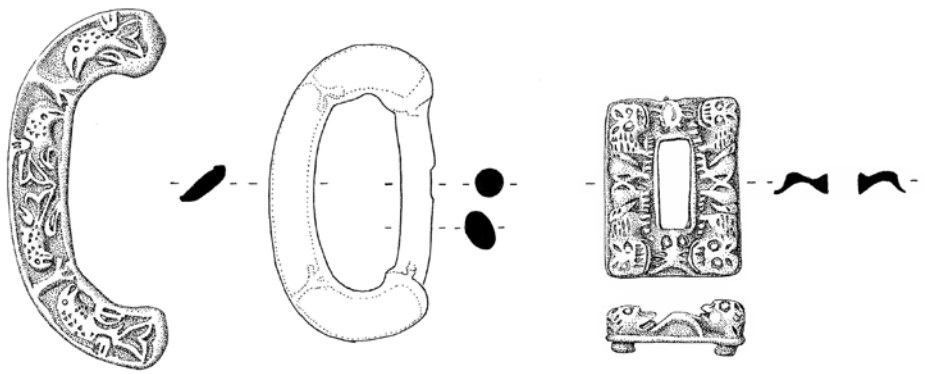


Figure 7.8 Silver-gilt Carolingian buckle-loop and belt-mount (**1:1,116–17**; cf. **Fig. 6.18**), from the Cuerdale hoard

from Malestig, Austria (Fraenkel-Schoorl 1978, 348f., no. 1).

Silver-gilt buckles of the same form and size as the Cuerdale example belonged to the sword-belts of the high-ranking Frankish nobility during the ninth century (Werner 1969, 501f.; Wamers 1981, 123f.; Wamers, in Wamers and Brandt (eds) 2005, *passim*). At present, it is not possible to suggest a place of origin or manufacture for the Cuerdale buckle with any more precision than just within the Frankish empire. Close parallels are provided by two fragmentary buckles in the hoard from Duesminde, Lolland, Denmark (*ibid*., 135, no. 36,e.1, fig. on p. 136, top left). When such Carolingian buckles are found in Viking male graves, they usually seem to have retained their primary function.

Silver-gilt rectangular mount

Based on its type and decoration, the Cuerdale mount (**1:1,117**; **Fig. 7.8**) can only be dated to the ninth century in general, although there are typological analogies with eighth-century mounts (to be discussed below), which might place it in the first half of the ninth. It is not certain that this strap-mount originally belonged with the Cuerdale buckle (above), but the width of the strap for which it was made would fit them well together. The secondary rivet does, however, demonstrate a period of re-use of this mount as a pendant (see above, pp. 127 and 228).

In fact, no other such openwork mount is known among the corpus of Carolingian metalwork from the ninth century, but similar mounts sometimes occur in eighth-century Carolingian male graves, as part of the sword-belt (e.g. Stein 1967, pls 24,3–4 and 95,8–9). The mounts in Grave 6 at Walda, Landkreis Neuburg an der Donau, Bavaria (*ibid*., 225, pl. 24,3–4), are the same size (*c.* 1.9 x 2.5cm) as that from Cuerdale. These mounts may have served as fittings for the secondary strap that kept the sword hanging in a sloping position, like the rhombic mounts (*Rautenbeschläge*) of the Merovingian period (cf. Menghin 1973, 43, figs 37–8). It is possible that this secondary strap was passed through the rectangular opening, protected by the mount.

The quadrupeds on the Cuerdale mount, with their open jaws, manes, claws and tufted tails, may readily be identified as lions. On the other hand, the two full-face heads were identified as bulls by Hawkins (1847, 192) because of their lentoid 'ears' and the curved 'horns' above them. If seen in profile, however, the 'horns' are bent backwards, so they might alternatively be the heads of rams.

The depiction of lions in Carolingian art, including ornamental metalwork, is not uncommon (Wamers 1986, 40; 2001); indeed, in older literature they were actually designated as 'Carolingian lions' (e.g. Paulsen 1933, 22f.). The tail usually passes through the legs, as here, and is laid over the back. The head may be depicted either in profile or looking backwards. The closest parallels for the Cuerdale lions are to be found on the gold strap-loop from Seeheim, Hessen, Germany (Roth and Wamers (eds) 1984, 339f., no. 228), the mounts from Loon and Marsum, Netherlands (Fraenkel-Schoorl 1978, figs 15–16; Knol, in Wamers and Brandt (eds) 2005, 120–2, no. 35,b), and the strap-end from Chateauroux, France (Fraenkel-Schoorl 1978, fig. 9,b).

Depictions of bulls and rams are also common in Carolingian art, occurring (for example) on capitals at Rasdorf, Kreis Fulda, Hessen, Germany, which go back to Byzantine capitals (Großman, in Roth and Wamers (eds) 1984, 358f., no. 238, figs). They sometimes occur in manuscript illuminations, e.g. the Stuttgart Psalter (*c.* 820–30), ff. 26r, 76v lower and 117r.

In early Christian art both the lion and the ram are symbols for Christ (Schiller 1971, 131f.; 1983, 24; *Lexikon der christl. Ikonographie* 1994, see '*Löwe*' and '*Widder*'), whereas the bull, which was already the sacrificial victim of Aaron in the Old Testament (Schiller 1983, 140), can represent Christ's sacrificial death (*ibid*., 131f.). Further, the lion and bull are the symbols of the evangelists Mark and Luke. However, their occurrence on ornamental belt- and strap-mounts worn by the Carolingian nobility (cf. Werner 1969, 501f.; Wamers 1981, 123f.) would seem primarily to relate to imperial power (*Lexikon der christl. Ikonographie* 1994, see '*Löwe*', col. 118).

Discussion

These four or five pieces from the Cuerdale hoard represent Carolingian ornamental metalwork of ninth-century date, most probably from its second half. The two smallest silver filigree fragments seem to belong together with the largest such fragment to form part of a single equal-armed brooch. It is likewise possible that the silver-gilt strap-mount and buckle-loop derive from a single sword-belt.

Finds of Carolingian ornamental metalwork are a common feature in Viking contexts, both graves and hoards; most of such finds are silver-gilt fittings from sword-belts and spurs, although there is also some jewellery. Most of these mounts occur in hoards, with a minor quantity found singly in graves, even though they had originally formed part of sets of four to six items, but then they have often been adapted for use as brooches and pendants (as **1:1,117**) to be worn by women (Wamers, in Wamers and Brandt (eds) 2005, 173–7).[8] They are, therefore, most unlikely, in general, to have reached the north by means of peaceful trade, for if they had been imported as trade-goods, one would then expect them to have been used in their original manner (cf. also Werner 1969, 501f., 506). In addition, some pieces show traces of violent demolition, like the brooch fragments from Cuerdale, which could have resulted from the division of loot. The ninth-century documentary sources record numerous raids on the Carolingian empire, with plunderings and payments of tribute; on the other hand, there are few references to any trade with the 'Northmen'. Some examples may, however, have been diplomatic gifts to Scandinavian noblemen (cf. Wamers, in Wamers and Brandt (eds) 2005, 165f.).

The distribution of Carolingian/Ottonian ornamental metalwork in the Irish Sea region – and as far south as Brittany – demonstrates the use of this route, as is indicated in contemporary sources, and also how this 'centre of maritime power' served to originate attacks on Francia (cf. Vogel 1906, 62f., 88f.; Dolley 1961; Wamers 2002, 265f.). A further reflection of this route is the association of Carolingian and Insular objects in several finds from Brittany up to Scandinavia. Insofar as they derive from Viking contexts, they cover exactly the areas of Viking control demonstrated by the distribution of Viking graves and coin hoards (cf. Hill 1984, maps 67 and 79).

Carolingian stray-finds and those without reported Viking find-contexts are characteristically found in the Anglo-Saxon areas to the south of the River Thames, e.g. Wareham, Dorset.[9]

Some of the ninth-century hoards, containing Frankish jewellery and coins, found in the north and west of the Frankish empire were most probably deposited by the local inhabitants in the face of Viking attacks (e.g. Féchain and Camon, in north-eastern France; Marsum and Rijs, Netherlands). Their contents are similar to such Viking hoards found in Scandinavia as Hoen and Slemmedal (Norway), as well as Stora Ryk and Östra Påboda (Sweden), and Westerklief (Frisia), in addition to Cuerdale, these only having been enriched by the addition of other western, northern and/or eastern items gained on other occasions.

Although there existed commercial and cultural connections between, for example, York and the continent (see above), the Frankish ornamental metalwork in the Cuerdale hoard, in addition to whatever else may have been melted down into ingots, seems to represent the remains of loot or tribute obtained by Vikings from the Irish Sea region or northern England during their raids towards the south, most probably on Frankish Neustria and/or Frisia, during the second half of the ninth century. Alternatively, such loot could have been brought north by Vikings who had been ravaging northern France before turning their attentions to Britain and Ireland.[10]

Notes

1 We are most grateful to Sonja Marzinzik for having translated the 'Vale of York' section from German.

2 There are also similar cups, such as those from Włocławek, Poland (Wamers 1991a, 136–8, fig. 27), and Nagyszentmiklós, Romania/Hungary (Daim and Stadler 1996), which date from the tenth and late eighth century respectively.

3 In addition to the sets of drinking vessels from Fejø and Ribe, the finds from Denmark include that from Lejre with its cup of tenth-century Scandinavian manufacture (Wilson 1960, 158–9, 171, figs 13 and 23,a; Wamers, in Wamers and Brandt (eds) 2005, 179–81, no. 44 and figs).

4 In other depictions of the Passion, the chalice may be held up by *Ecclesia* to collect Christ's blood.

5 See Graham-Campbell and Kidd 1980, pl. 14, for a colour illustration.

6 For this brooch-type, see Wamers 1994a, 588–9, fig. 176, and Thörle 2001, 179f., pls 53–4.

7 This is to be identified as a piece of Carolingian metalwork on the basis of a parallel from Mainz (Wamers 1994b, 148–9, fig. 235).

8 An obvious exception is provided by the male burial at Aspatria, Cumbria, with its (lost) sword, gold buckle and strap-end (Edwards 1992, 43–5, fig. 5,1), and maybe also the *Bootkammergrab* at Hedeby (Müller-Wille 1976).

9 It is possible, however, that the presence of this piece at Wareham may reflect Wareham's use as a winter-base by the Viking army in 875/6 (L. Webster, in Webster and Backhouse (eds) 1991, no. 256).

10 Note also the coin evidence for part of the Cuerdale hoard having possibly been accumulated as a result of a Viking raid on the Rhine-Maas delta in *c.* 902–3 (Archibald 1992, 17–18; Williams above, pp. 49 and 65–6).

CHAPTER 8
Manufacture and Decoration

The purpose of this chapter is to give some consideration to the methods of manufacture and decoration of the gold and silver ornaments which are catalogued here – given that the production of ingots has been described and discussed in Chapter 4. This is in no way an attempt at a comprehensive over-view of fine metalworking techniques, given that there is much information on the subject readily available both in the form of general surveys (e.g. Oldeberg 1966; Lønborg 1998) and of specialist studies (e.g. Stenberger 1958, 263–88; Duczko 1985 and Eilbracht 1999, on filigree; and Armbruster 2004, on goldsmiths' tools) – to which sources readers are referred. There are, however, certain aspects of the production and decoration of the material under discussion that are of general interest (e.g. the brambling on 'thistle-brooches'). In addition, particular attention has been given to providing a database of the stamps used to decorate a wide range of the objects under consideration.

Casting

An important aspect of the production of ingots by casting is that they could not only immediately enter into circulation as bullion, but also that they were (and remained) readily available for conversion into ornaments – by hammering. Cast ingots can thus be considered as the essential 'building blocks' for the display economy.

Whereas casting was used in Viking-age Scandinavia for the manufacture of certain types of silver arm-ring, as represented here by three imported fragments in the Cuerdale hoard (**1:413–14** and **417**), it does not appear to have been much used in the manufacture of other rings in this catalogue (the obvious exception to this generalisation being the gold finger-ring (**36**) from Tundergarth, in south-west Scotland). It is, however, in the production of the developed 'thistle-brooch', originating in an Irish pre-Viking tradition, that consummate casting skills are in evidence, as will be described below.

Hammering (forging/smithing)

Ingots might be hammered into flat bands to form arm-rings, without much being needed by way of further modification, resulting (when bent into shape) in the plain penannular versions of the Hiberno-Scandinavian broad-band arm-ring (as **Fig. 5.11**, no. 11, and **23**). On the other hand, whilst still flat, the band could be decorated with stamped ornament (e.g. **8**, **16** and **22**), as discussed in the next section. There are numerous examples of such rings in the Cuerdale hoard (e.g. **Figs 5.8** and **5.11–12**), as also of the equivalent narrow-band arm-rings (e.g. **Figs 5.8–9**). These band-shaped arm-rings, whether pennanular or annular, are characteristically broadest at their central point, tapering slightly to their terminals, thus reflecting the form of the average bar-shaped ingot with its tapered ends.

It has been suggested (Sheehan 2009, 68–9) that the Hiberno-Scandinavian broad-band arm-rings which largely constitute the Huxley hoard (**Fig. 1.11**) were still flat (i.e. unfinished) when they were hammered in half – presumably for storage/transport and/or concealment purposes – given that there is no evidence for their having previously been bent into shape.[1] The Huxley hoard has therefore an added interest in that it apparently forms a 'workshop' group of such rings – rings that somehow entered the bullion economy (given that a few have had their ends cut off) before they could play their intended part in ornamental display and the prestige economy.

Alternatively, the Viking-age silversmith would hammer ingots into rods, of circular section – and of various sizes – as needed for the manufacture of the standard types of twisted/plaited-rod rings, in addition to single-rod arm- and finger-rings (see Chapter 5). In this case also, the form of the rods reflects that of the bar-shaped ingots, with their greatest diameter at the centre – conveniently tapering to the ends, which facilitated the manufacture of their terminals (cf. **Fig. 5.13**). Drawing rods of constant diameter by mechanical means had to await the nineteenth-century Industrial Revolution, so that manufacture by hammering was the only available process during the Viking Age, although wire-drawing was certainly practised, as described below (in the final section, p. 150).

Hammering was also the method used for manufacturing rods of polygonal section, most frequently lozenge-shaped, but also up to octagonal in form (e.g. **1:960**; **Fig. 5.14**, no. 65), as described in Chapter 5.

Stamping

The actual punches used to produce stamped ornament have rarely been found, but there is a well-known example, of the opposed-triangle or 'hour-glass' type, in the late Viking-age tool-chest found at Mästermyr, Gotland, together with a lead trial-piece (Oldeberg 1966, figs 65 and 77–8; Müller-Wille 1977, figs 24,14 and 25,20; Graham-Campbell 1980, no. 415; Arwidsson and Berg 1983, 16, pls 10 and 28,84–5). Three such lead 'trial-pieces' have, however, been found recently in England and Wales, the latter example being from the Viking-age site at Llanbedrgoch, Anglesey, with its evidence for silver-working (Redknap 2000, fig. 130; 2004, fig. 8b; 2006, 28–9; 2009, 37–8). The other two lead 'trial-pieces' are both metal-detected finds from the site of the (872/3) winter-base of the 'Great Army' at Torksey, Lincs (Blackburn 2009, 48–9, fig. 4,1).[2]

Some of the most elaborately stamped Viking-age silver was evidently manufactured on Gotland, with sometimes highly complex punches used in multiple combinations (Stenberger 1958, 288–96). More common, particularly with regard to the material catalogued here, is the use of just a single punch – sometimes combined with a second, for contrast. It was noted by Graham-Campbell (1995, 57) of the

silver and gold ornaments found in Scotland that those with the most complex stamped decoration:

> Employ up to four different punches, as on the terminals of a silver neck-ring from the Skaill hoard [no. 24:104], Orkney, and on the elaborate gold finger-ring [S9] from Tundergarth, Dumfriesshire.

As described above (p. 105), the Tundergarth finger-ring (**36**) is a scaled-down version of the type of arm-ring or 'ribbon-bracelet', with elaborate stamped ornament (cf. **Fig. 1.4**), which is represented in the Cuerdale hoard by a single fragment (**1:417**; **Fig. 5.6**, no. 47); this is decorated with three stamps. Given that such rings formed the prototype for the Hiberno-Scandinavian 'ribbon-bracelet', it is not surprising that the four arm-ring fragments from the Cuerdale hoard with the most stamps all belong to this Insular type: **1:425** and **1:460** use four punches (**Cat. Figs 11** and **15**), whereas **1:421** and **1:423** (**Fig. 5.6**, nos 40–1) are exceptional in employing five each (**Cat Figs 9–10**).

A classic example of the use of two punches to decorate an arm-ring in an Insular context is provided by the 'ribbon-bracelet' from the Bossall/Flaxton hoard (**Fig. 1.7**). A longitudinal band of coarse beading was 'produced by means of a row of an hour-glass (opposed triangle) stamp, between a pair of incised lines', on either side of which 'are two interlocking rows of a large trefoil stamp (lozenge-on-heart);' however, this gradually deteriorated during use (Graham-Campbell 1993a, 82):

> The punch in question was used to make one hundred impressions on the arm-ring, with fifty in both rows. The silversmith started at the centre of a row and was working towards one end when the edge of the punch began to crack, visibly affecting the lozenge-shaped element of the stamp on its eighteenth usage. Having reached one end, he started back along the other row, during which the crack spread diagonally across the lozenge. From this there then developed a second crack so that the lozenge was ultimately divided into three. This stage had been reached before the second row had been completed, but nevertheless the smith continued back from the end to complete his row in this imperfect manner.

In an attempt to provide data for the future exploration of 'workshop' traditions and ornamental development within the Insular Viking-age production of gold and silver ornaments, in particular that of Hiberno-Scandinavian arm-rings, care has been taken here to record (as accurately as possible) the complete range of the stamps used in the decoration of these rings and other types of object.[3]

For ease of reference, the stamps are presented in four categories:

(i) Bar-shaped (**Fig. 8.1,a–c**), as are characteristic of the Hiberno-Scandinavian broad-band arm-rings

(ii) Triangular and related, including 'hour-glass' (**Fig. 8.2**)

(iii) Ring-shaped (**Fig. 8.3**)[4]

(iv) Miscellaneous (**Fig. 8.4**).

These are to be compared and contrasted with those previously published for the Viking-age finds from Scotland (Graham-Campbell 1995, fig. 28), and those newly recorded on the broad-band arm-rings in the Huxley hoard, Cheshire (Graham-Campbell and Philpott (eds) 2009, fig. 7.4).

(i) Bar-shaped stamps (Fig. 8.1,a–c)

It is clear that the bar-stamping (**Fig. 8.1,a–c**), on the Hiberno-Scandinavian broad-band arm-rings catalogued here, varies considerably in complexity – from a simple transverse row, created with a plain (blunt-ended) stamp (e.g. nos 1–7, **Fig. 8.1,a**) to elaborate criss-cross patterns (e.g. nos 51–60, **Fig. 8.1,b**; cf. **Figs 5.11–12**). As far as individual bar-stamps are concerned (as summarised in Table 8.1), there was clearly a preference for the 'serrated-edge' form, often with a medial raised line (nos 61–82, **Fig. 8.1,c**; cf. **Fig. 5.11**, nos 17–18; Sheehan 2009, 65, fig. 7,4, nos 1–4, 7–10 and 13–14), but whether such was a temporal or regional fashion (or both?) is a matter for future exploration. Another popular – if far less common – form of bar-stamp features a lattice-type design (nos 53–60, **Fig. 8.1,b**; cf. **Fig. 5.12**, no. 36); indeed, it is the second most popular form of bar-stamp used on the broad-band arm-rings in the Huxley hoard (*ibid*., 65, fig. 7,4, nos 5 and 11–12), although this is not the case with the material presented here. In this Catalogue, as can be seen from **Fig. 8.1,b** and **Table 8.1**, the next most popular form of bar-stamp is that containing a row of pellets, although it is evident that these designs merge, through zig-zag (nos 46–50) and diagonal criss-cross versions (nos 51–2), into the fully-developed 'lattice' type (nos 53–60).

As already mentioned, bar-stamps were used to construct patterns in various ways – sometimes together with differently shaped stamps – with the design commonly incorporating a central diagonal cross (cf. **Fig. 5.8**, no. 21, from Cuerdale, on which the diagonal cross is exceptionally doubled). This basic layout is well demonstrated by twelve out of the sixteen decorated broad-band arm-rings in the Huxley hoard (**Fig. 1.11**), of which six, according to Sheehan (2009, 64–5, fig. 7.3):

> Feature a central cross with another cross at each terminal area, followed by one or two vertical impressions (nos 1–6) [e.g. 8:1–2 and 16:2], whereas the other six feature only the central cross (nos 7–12).

Four of the Huxley arm-rings are decorated with horizontal (longitudinal) rows, featuring a variety of stamps (*ibid*., 66–7, fig. 7,3, nos 13–16). This is a layout well represented in the Cuerdale hoard (e.g. **Fig. 5.12**, nos 25, 28 and 37, and **Cat. Fig. 13**), with chevron arrangements being not uncommon (e.g. **Fig. 5.8**, no. 21, and **16:1**).

Table 8.1 Analysis of the 253 recorded stamps (cf. Figs 8.1–4)

Bar-stamps: 82+ (Fig. 8.1,a–c)

Plain	Points	Wavy	Pellets	Lattice	Serrated
7+	15	9	19+	10	22

Triangular, lozenge and related stamps: 116+ (Fig. 8.2)

Plain	Pellets	Dagger	Lozenge	Hour-glass	Misc
7	17+	8	10	63+	11

Triangular (with pellets): 17 (Fig. 8.2)

One	Two	Three	Four	Five	Six	Seven
1	1	11	2	0	0	2

Opposed triangular/hour-glass (with pellets): 19 (Fig. 8.2)

One	Two	Three	Four	Five	Six	Seven (aside)
10+½	0	8+½	1(?)	0	0	0

Opposed triangular/hour-glass (plain): 43 (Fig. 8.2)

Conjoined: 28 Unconnected: 15

Ring-stamps: 46+ (Fig. 8.3)

Dot	Ring	Broken	Double
2+	38+	1	5

Miscellaneous plain stamps: 9 (Fig. 8.4)

(+ indicates the existence of one or more further examples of a type recorded in the Catalogue, but unillustrated)

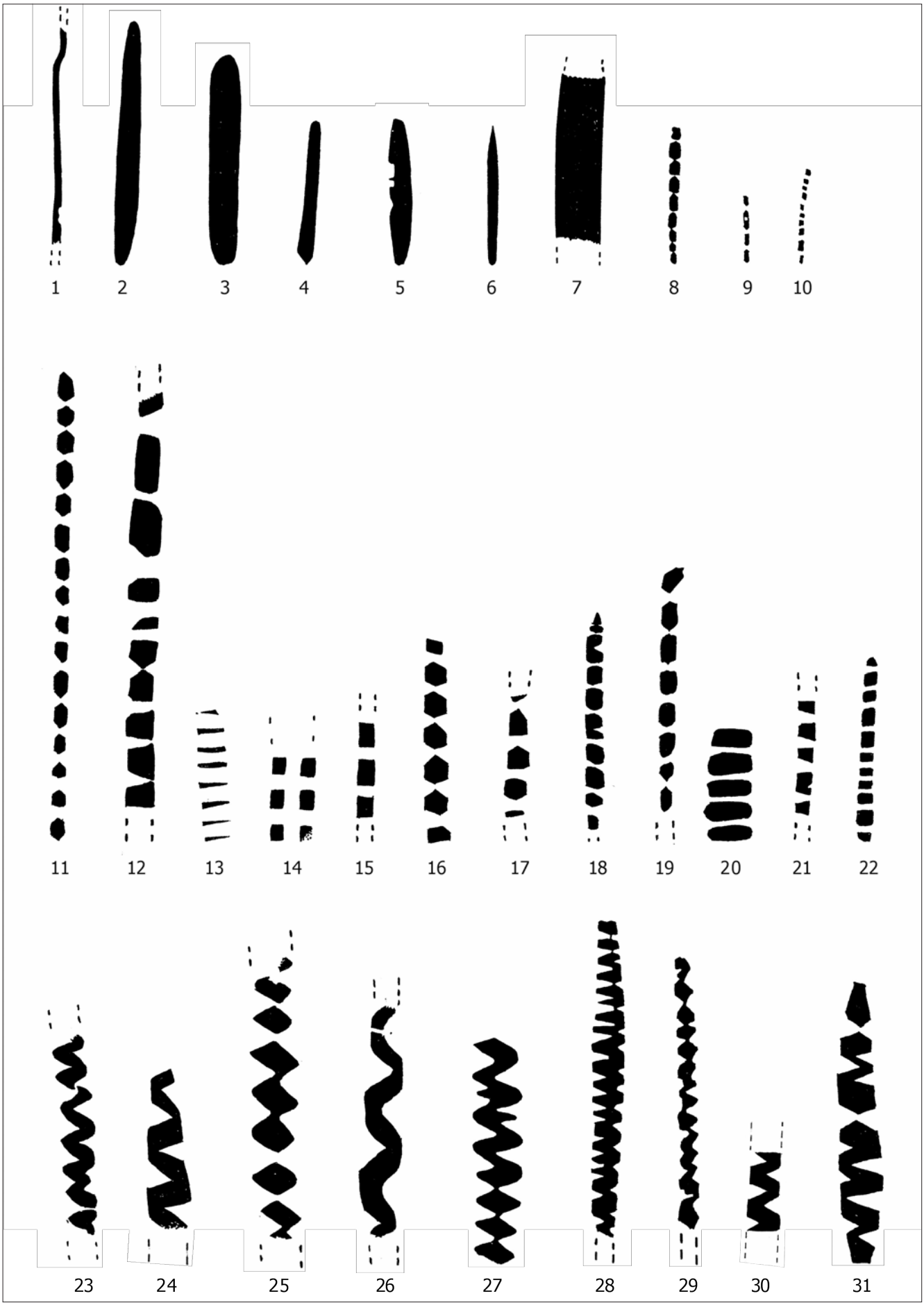
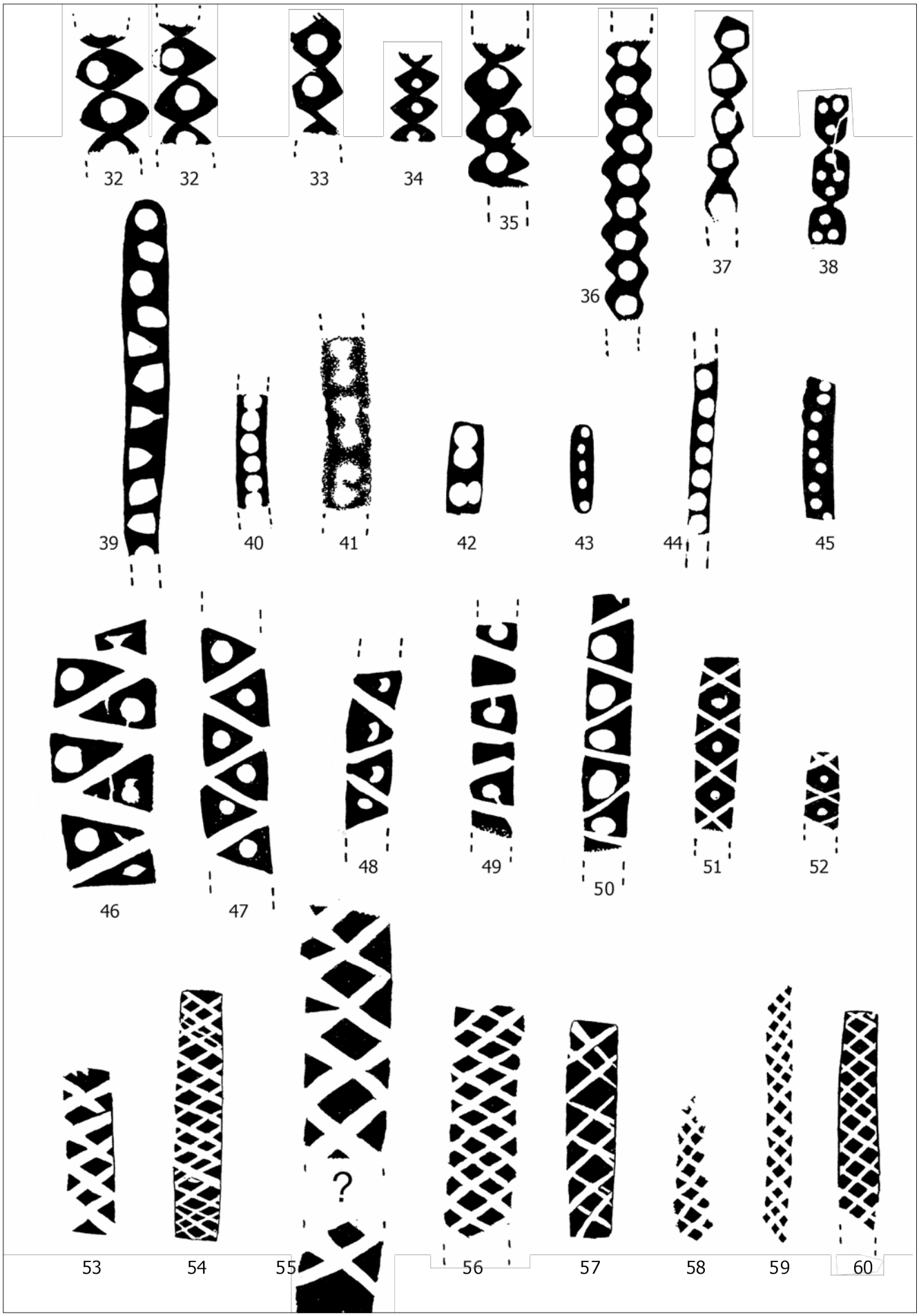
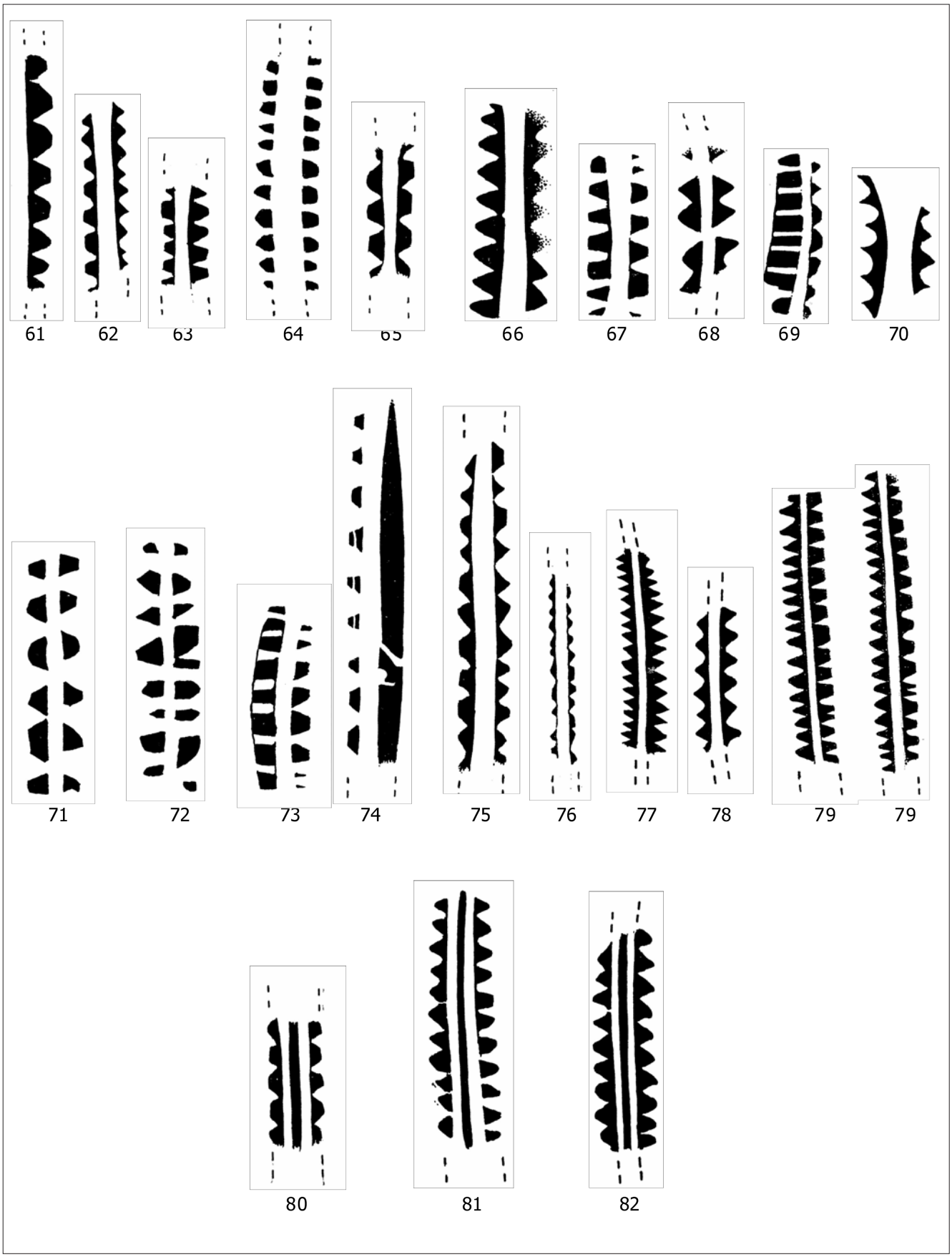


Figure 8.1 Compendium of 82 bar-stamps (scale 3:1)
Key: (**Fig. 8.1,a**: **Row 1**): 1=1:442, 2=1:479, 3=1:480, 4=1:481, 5=1:511-12, 6=1:539, 7=3:9, 8=1:419, 9=1:421, 10=1:423; (**Row 2**): 11=1:443, 12=1:518, 13=1:448-9; 14=1:473, 15=1:474, 16=1:487, 17=1:488, 18=1:491, 19=1:492, 20=1:493, 21=1:494, 22=3:10; (**Row 3**): 23=1:499, 24=1:513, 25=1:514, 26=1:516, 27=1:549, 28=1:550, 29=1:559, 30=App. Fig. 2.4,b, 31=8:1-2



(**Fig. 8.1,b**: **Row 1**): 32=1:533-4, 33=1:535, 34=1:567, 35=1:558, 36=1:459, 37=1:907, 38=1:462; (**Row 2**): 39=1:445, 40=1:466, 41=1:472, 42=1:476, 43=1:551, 44=1:556, 45=1:566; (**Row 3**): 46=1:531, 47=1:532, 48=1:555, 49=9:2, 50=16:2, 51=1:519, 52=1:568; (**Row 4**): 53=1:447, 54=1:452-3, 55=1:520; 56=1:521, 57=1:522, 58=1:523, 59=1:524, 60=1:547



(**Fig. 8.1,c**: **Row 1**): 61=1:517, 62=1:485, 63=1:486, 64=1:489, 65=1:490, 66=1:496, 67=1:500, 68=1:502, 69=1:503, 70=1:504; (**Row 2**): 71=1:515, 72=1:525, 73=1:526; 74=1:527, 75=1:528, 76=1:529, 77=1:553, 78=1:554, 79=16:1 and 3; (**Row 3**): 80=1:498, 81=1:538, 82=1:560

(ii–iii) Triangular, lozenge, 'hour-glass' and ring-shaped stamps (Figs 8.2–3)

The use of triangular and ring-shaped stamps (**Figs 8.2–3**) was ubiquitous on Viking-age Scandinavian silver ornaments (cf. Stenberger 1958, 288–96 and figs; Graham-Campbell 1995, 57, fig. 28) – and ring-and-dot decoration enjoyed even more widespread popularity, being much used also in bone- and antler-work, as on combs, when it was incised (e.g. Graham-Campbell 1980, nos 77 and 182).

Simple triangular stamps (**Fig. 8.2**) are either plain (nos 1–7) or, more often, contain pellets (nos 8–24). The use of three pellets is, not surprisingly, the most common arrangement (nos 9–12 and 14–20), with there being occasional examples of one (no. 8), two (no. 13)[5] and four (nos 21–2). The inclusion of as many as seven pellets (nos 23–4; cf. nos 30–1, the two 'dagger'-shaped stamps) is a clear indication of imported Scandinavian manufacture (**1:425** and **1:422–3**, respectively). Lozenge-shaped (and related) stamps were treated in the same way, either being plain or containing one to two pellets (nos 33–42).

Triangles (both plain and containing one or three pellets each) were frequently opposed to form an 'hour-glass' shape, the two elements being either separate or conjoined (nos 43–104). There is one distinctive – and neatly made – stamp consisting of a pair of conjoined lozenges, both containing four pellets (no. 105). A small number of more unusual designs (trefoil, quatrefoil, figure-of-eight, etc.) are clearly related variants, with the characteristic incorporation of one or more pellets (nos 106–16).

The ubiquitous ring-stamp (**Fig. 8.3**) varies from the perfectly circular, through irregular, to oval in outline (nos 3–40), but with a few distinctive – because more elaborate – variants (nos 41–6). The latter were utilised in workshops manufacturing broad-band arm-rings, alongside bar-stamps. A particular use for simple ring-stamping was in the creation of the characteristic 'brambled' ornament of the 'thistle-brooches', as described in the next section.

(iv) Miscellaneous stamps (Fig. 8.4)

The nine stamps designated 'miscellaneous' are only loosely linked in being 'solid', with both the double chevron (no. 5) and the S/Z designs (nos 8–9) relating to bar-stamps. The T-shaped stamp (no. 4), which was likewise used by a Hiberno-Scandinavian craftsman for the decoration of two broad-band arm-rings (**16:1–2**), is highly distinctive, although not completely unknown in Ireland. A T-shaped stamp was used to decorate one of the fragments of broad-band arm-ring in the small coinless hoard from Creaghduff, in Lough Ree, Co. Westmeath (Graham-Campbell and Sheehan 2009, 82). This design is likewise rarely encountered in Scandinavia, apart from a couple of occurrences on Gotland: on a copper-alloy arm-ring from a female grave at Smiss, Eke (Thunmark-Nylén 1998, pl. 154,6; 2000, 115); and, containing a single pellet, on a silver penannular brooch in a small coinless hoard from Sigreifs, Västerhejde (Stenberger 1947, 239, pl. 110,1). The C-shaped stamps (nos 1–3) form an interesting variant in that they have been used to create wavy patterns (see above, p. 91).

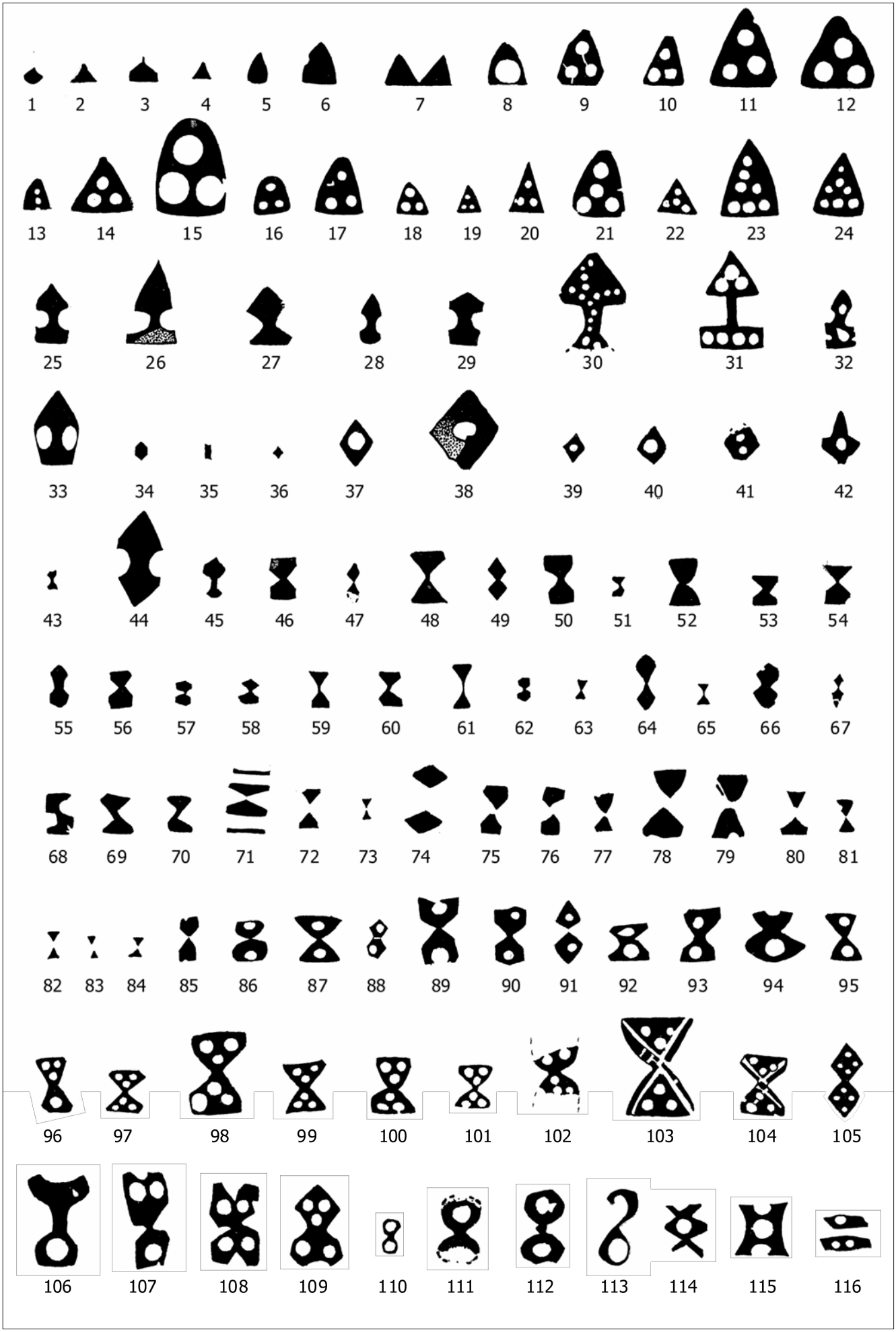
Brambling

The so-called 'brambled' decoration, of the obverse of both pin-head and terminals, provides the defining characteristic of the 'thistle-brooches' manufactured in the ball-type brooch tradition (Graham-Campbell 1983b). As will be demonstrated below, the manufacture of its 'classic' form necessitates a combination of criss-cross filing and ring-stamping (**Fig. 8.5**). This, however, developed from simpler origins, for the earliest form of what has become known as 'brambling' was utilised on Irish pseudo-penannular brooches (Graham-Campbell 1972). In the first instance, such would seem to have been cast without any secondary working by way of filing or ring-stamping, as can be seen on one of the brooches from Scattery Island (**10:2**). This practice seems to have been carried over into the beginning of the Irish 'thistle-brooch' tradition, as with the example in the Ardagh chalice hoard, Co. Limerick (Mahr (ed.) 1932, pl. 55,2). The Clooneen thistle-brooch, in the British Museum (p. 18), displays a more advanced manufacturing technique in that its brambling is deeply filed, but it has no ring-stamping.

It is the generally accepted opinion that stamped ornament, if not unknown to the Irish silversmith, was not in common use in the pre-Viking period and so was essentially an introduction from the Scandinavian metalworking tradition. Whether or not the addition of ring-stamping to the manufacture of brambling on the typologically early small 'thistle-brooches', with solid terminals, resulted from Scandinavian involvement in their production or was an Irish innovation (perhaps inspired by Scandinavian practices) has yet to be determined. It is, however, the case that all the 'thistle-brooch' fragments in the Cuerdale hoard have ring-stamped brambling, as (not surprisingly) do the brooches, deposited at a somewhat later date, in the Goldsborough and Flusco Pike (no. 1) hoards.[6]

The Goldsborough 'thistle-brooch' (**3:1**) provides a classic example of a brooch with its hoop cast together with the solid ball-shaped terminals; the pin and pin-head are likewise a single casting (the pin-head being cast in place around the hoop). It has deep filed, spiky, brambling (**Fig. 8.5**). One of the four Flusco Pike 'thistle-brooches' (**2:5**) is cast in the same manner, and all the Cuerdale fragments also appear to be of this type (cf. **Fig. 6.1** and **Cat. Fig. 20**), although those with brambling are not so spiky in their finish (**Fig. 8.5**). At the opposite extreme, it would appear that, in the case of one of the

Figure 8.2 (opposite) Compendium of 116 triangular, lozenge and related stamps: nos 1–62, 66–81, 83, 85–94 and 96–116: rings; nos 63–5, 82 and 95: brooches; and no. 84: suspension-loop (scale 3:1)
Key: (**Row 1**): 1=1:434, 2=1:462, 3=1:478, 4=1:959, 5=1:977, 6=36, 7=1:430-1, 8=1:432, 9=1:419, 10=1:422, 11=1:521, 12=1:536; (**Row 2**): 13=1:537; 14=1:541, 15=1:552, 16=1:565, 17=1:691, 18=1:913, 19=1:893, 20=4:2, 21=1:418, 22=1:423, 23-4=1:425; (**Row 3**): 25=1:417, 26=1:427-8, 27=1:436, 28=1:543, 29=36, 30=1:422, 31=1:423, 32=1:424; (**Row 4**): 33-5=1:421, 36=1:374, 37=1:420, 38=1:462, 39=1:961, 40=1:975, 41-2=1:460; (**Row 5**): 43=1:417, 44=1:420, 45=1:434, 46=1:440, 47=1:460, 48=1:465, 49=1:542, 50-1=1:545, 52=1:546, 53=1:685, 54=1:855; (**Row 6**): 55=1:891; 56=1:900, 57=1:906, 58=1:908, 59=1:913, 60=1:962, 61=1:977, 62=1:984-5, 63=1:1,015, 64=1:1,016, 65=1:1,052, 66=3:8, 67=36; (**Row 7**): 68=1:424, 69=1:420, 70=1:447, 71=1:979-80, 72=1:418, 73=1:423; 74=1:436, 75=1:450-1, 76=1:477, 77=1:508, 78=1:544, 79=1:548, 80=1:892, 81=1:909; (**Row 8**): 82=1:1,053; 83=1:1,062, 84=1:1,077, 85=3:11, 86=1:375, 87=1:406, 88=1:460, 89=1:475, 90=1:507, 91=1:563, 92=1:963, 93=1:901, 94=1:976, 95=1:1,053; (**Row 9**): 96=1:854, 97=1:429, 98=1:540, 99=1:960, 100=1:982, 101=1:984-5, 102=1:964, 103=1:538, 104=1:539, 105=1:444; (**Row 10**): 106=1:456, 107-8=1:458, 109=1:902; 110=1:429, 111=1:441, 112=1:557, 113=1:561, 114=1:904, 115=28, 116=1:973


1 2 3 4 5 6 7 8 9 10 11 12
13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42
43 44 45 46 47 48 49 50 51 52 53 54
55 56 57 58 59 60 61 62 63 64 65 66 67
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106 107 108 109 110 111 112 113 114 115 116

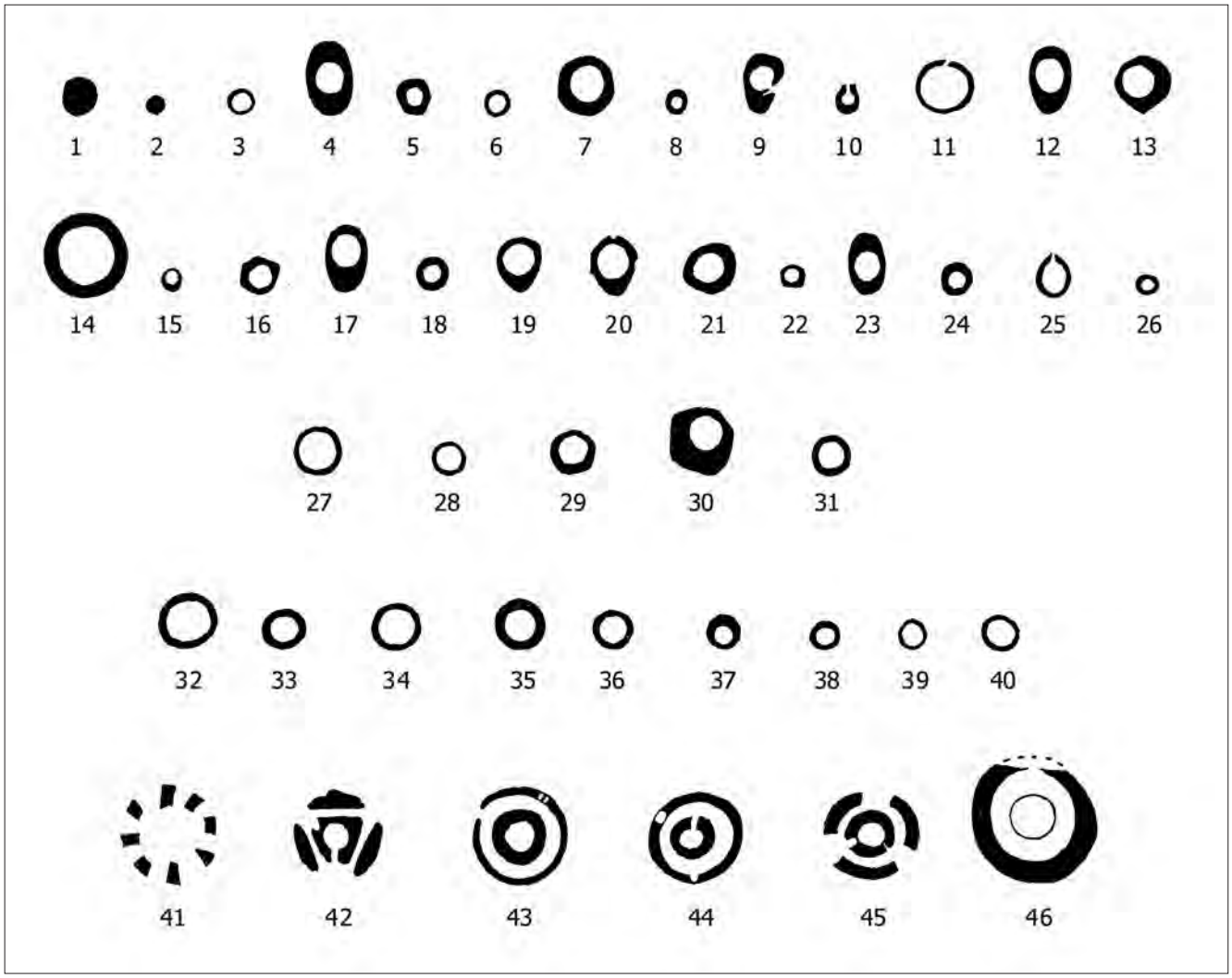

Figure 8.3 Compendium of 46 ring-shaped stamps: nos 1–2, 4–26, 37 and 39–46: rings; no. 3: ingot; nos 27–36 and 38: brooches (scale 3:1)
Key: (**Row 1**): 1=1:511, 2=21, 3=1:227, 4=1:374, 5=1:415, 6=1:417, 7=1:421, 8=1:423, 9-10=1:425, 11=1:426, 12=1:435, 13=1:438; (**Row 2**): 14=1:439, 15=1:444, 16=1:450-1, 17=1:468, 18=1:506, 19=1:508, 20=1:509, 21=1:510, 22=1:973, 23=1:903, 24=1:905, 25=1:911, 26=1:959; (**Row 3**): 27=1:995, 28=1:1,014, 29=1:1,015, 30=1:1,053, 31=1:1,062 (**Row 4**): 32-3=2:1, 34=2:2, 35=3:1, 36=3:3, 37=12:2-3, 38=13:7, 39=19, 40=36; (**Row 5**): 41=1:448-9, 42=1:446, 43=1:447, 44=1:452-3, 45=1:457, 46=3:9

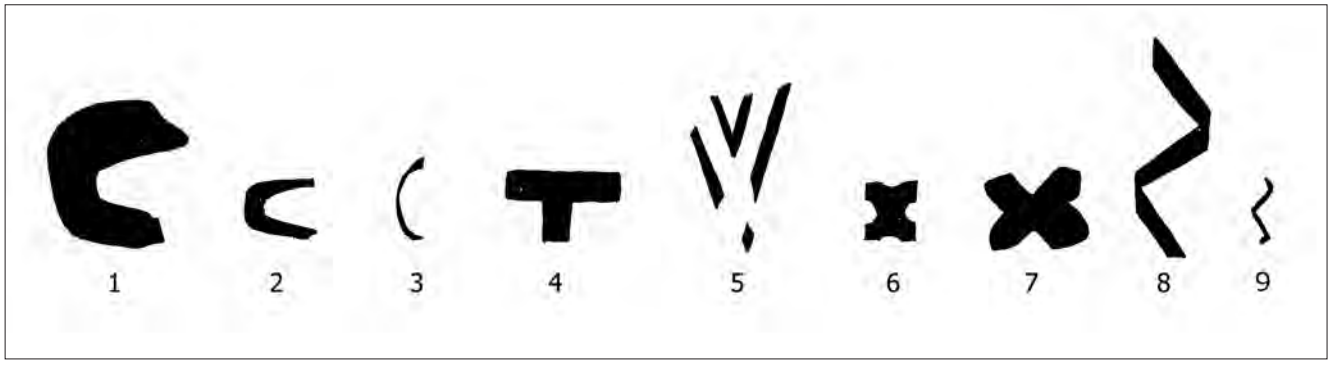

Figure 8.4 Compendium of nine miscellaneous plain stamps: nos 1–8: rings; no. 9: brooch (scale 3:1)
Key: 1=1:415, 2=1:416, 3=1:903, 4=16:1 and 3, 5=1:505, 6=34, 7=App. Fig. 2.4,b, 8=1:495, 9=13:7

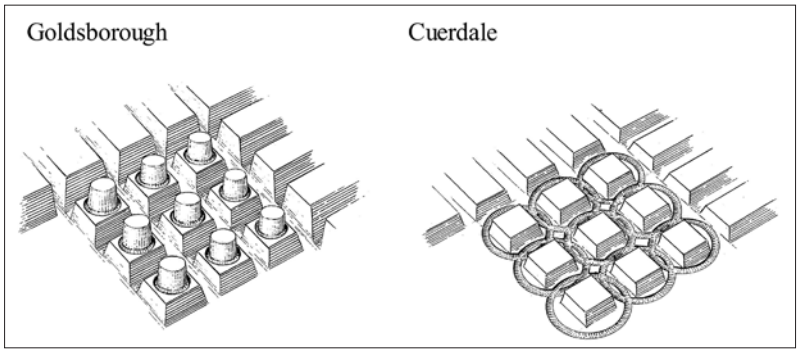

Figure 8.5 'Brambling' methods on silver 'thistle-brooches': Goldsborough (**3:1**); and Cuerdale (**1:995**)

most massive 'thistle-brooches' (**2:1**), the attempt to create impressively spiky brambling may have so weakened the much-hollowed terminals that parts of both have broken away (**Pl. 54**).

An obvious advantage in casting the terminals separately from the hoop is that the pin and pin-head could also be cast separately, with the hoop being inserted through the pin-head before the terminals were attached. There is, however, no reason to suppose that this development in the manufacturing process of 'thistle-brooches' resulted from this factor; more probably, it arose from the desire to enlarge the terminals for display purposes, with the adoption of hollow-casting enabling the size of the balls to be increased considerably, without a commensurate increase in the amount of silver required. Another of the Flusco Pike (no. 1) 'thistle-brooches' (**2:2**) provides a good example of this stage in the ongoing development because, even if a larger ball had been achieved (in a cost-effective manner), an even larger size was desired purely for display. Alongside the enlargement of the balls, there was scope for increasing hoop-size and pin-length for the purpose of yet more ostentatious display (**Table 8.2**).

The two largest 'thistle-brooches' in this catalogue, which are here attributed to the Flusco Pike (no. 1) hoard (as **2:1–2**), are amongst the largest and finest examples extant; however, they differ from each other in one essential aspect of their manufacture. Despite their great size, the pin and pin-head of one brooch (**2:2**) were cast together as one, in the same manner as had been used for smaller brooches (e.g. **2:5**),[7] whereas the silversmith who manufactured the other brooch (**2:1**) adopted a new approach to the problem presented by the growth in pin-length. In this case, the pin-head was separately hollow-cast and provided with a socket into which the separately manufactured pin-shaft could be soldered. Other silversmiths adopted an alternative approach to this problem and manufactured their separate pin-heads with a pointed tenon onto which a socketed pin-shaft could be soldered (cf. that in the Ballaquayle hoard (**13:8**), deposited *c.* 970). Examples of these manufacturing strategies for the production of developed 'thistle-brooches' (and other varieties of ball-type brooch) are also represented in the Skaill, Orkney, hoard (Graham-Campbell 1995, 34–6, pls 8–22).

Table 8.2 'Thistle-brooch' sizes: the Goldsborough (3) and Flusco Pike (2) hoards

Brooch:	Hoop diam.	Ball diam.	Pin length
3:1	6.9	1.45	19.9
2:3	7.4	1.9	26.0 (tip missing)
2:5	?	2.7	20.0 (tip missing)
2:1	19.0	3.4	51.2
2:2	*c.*15.0+	4.3	51.5

Incised decoration

Incised decoration features largely in the Irish bossed penannular brooch tradition (see Chapter 6), including the reverse of many, where it is present in the form of linear ornament, often as compass-drawn circles around the rivet heads attaching the bosses, such as on Flusco Pike (**2:4** and **6**; **Cat. Fig. 32**) and Goldsborough brooches (**3:2**; **Cat. Fig. 34**). It may also occur down the shafts of some of the longer pins (Johansen 1973, 80; **Cat. Fig. 31**). It is a matter of note that this incised ornament on Irish silverwork is not inlaid with niello, in contrast to the contemporary practice of Anglo-Saxon silversmiths working in the Trewhiddle style (Wilson 1964, 21–35).

The 'thistle-brooch' tradition continues to employ incised decoration, as can be seen most clearly on a Flusco Pike brooch (**2:2**), which has an elaborate design of four triquetras within concentric circles on the reverse of its terminals and pin-head – a pattern repeated on its circular pin-top (**Fig. 8.6**). Its pin-shaft has both interlace and fret patterns, with pairs of parallel lines continuing down the shaft (**Cat. Fig. 31**). Such parallel lines are still faintly to be seen on the pin-shaft of the other large Flusco Pike brooch (**2:1**), as also on that of the Goldsborough 'thistle-brooch' (**3:1**).

The terminal/pin-head patterns vary in complexity, but commonest are compass-incised 'marigold' patterns, as on the reverse of the terminals and pin-head of Flusco Pike (**2:1**), which have five 'petals' each, whereas that on its pin-top is a hexafoil (**Fig. 8.6**). The reverse of one of the two pin-heads in the hoard from Ballaquayle, Isle of Man (**13:9**), is likewise incised with a hexafoil, within two concentric circles, with a crude cruciform pattern on its pin-top (**Cat. Fig. 41**). The more elaborate incised decoration of Flusco Pike (**2:2**) has already been noted; it is illustrated here (**Fig. 8.6**) together with that on the other pin-head from the Ballaquayle hoard (**13:7**). The

Figure 8.6 'Thistle-brooch' pin-top ornaments: Flusco Pike (**2:1–2**) and Ballaquayle (**13:7**)

Ballaquayle fret-pattern is repeated on a pin-head believed to be from the Skaill hoard (Graham-Campbell 1983a, fig. 10; 1995, 123, no. 24:113, pl. 13), as also on the exceptionally large pin-head from near Urlingford, Co. Kilkenny, and a 'motif-piece' from Lissue, Co. Antrim (Graham-Campbell 1983a, 70, with refs).[8]

Wire-drawing

The manufacture of drawn wire was essential for the production of filigree decoration, but filigree work is of such complexity that it forms a subject in its own right.[9] Examples of the plates, with graduated perforations, used for drawing wire have been found in several sets of Viking-age metalworker's equipment, as well as at locations where fine metalworking was being undertaken (Oldeberg 1966, figs 79–80 and 582–5; Arwidsson and Berg 1983, 15, pl. 23,79–80; Duczko 1985, 16–17, figs 1–2; Lønborg 1998, 51–2, fig. 55).

Attention has already been drawn, in Chapter 6 (p. 123), to the hank of (unused) silver wire in the Cuerdale hoard (**1:1,091**), with a diameter of only 0.02cm, as also to that in the Chester hoard (**Fig. 1.12**). This type of plain wire was used in the decoration of ornaments, such as arm- and neck-rings (e.g. **13:1–2** and **20**), and for the manufacture of chain-work (e.g. **Fig. 6.15,1–2**), including the production of 'Trichinopoly' chains (e.g. **Figs 6.11** and **6.14**).

The distinction between a thick wire and a thin rod is inevitably somewhat arbitrary without recourse to a Scanning Electron Microscope, as used here on a silver chain fragment in the Cuerdale hoard (**1:1,088**; see **Fig. 6.15,3**), with a diameter of 0.05cm, and the gold arm-ring from Munterconnaught, Co. Cavan (**21; Cat. Fig. 42**). In the latter case, it is of particular interest that it was possible for a Viking-age goldsmith, in Ireland, to draw a thin 'rod' measuring 0.1cm in diameter, as revealed (in **Pl. 80**) by Andrew Oddy's photograph (1984, 246, no. 15).

Notes

1 It is most probable that one of the plain terminal fragments of penannular arm-ring in the Cuerdale hoard constitutes half an unfinished Hiberno-Scandinavian broad-band arm-ring (1:575), having seemingly been cut in two whilst still flat and undecorated (cf. the four complete, but bent, plain examples in the Huxley hoard: Graham-Campbell and Philpott (eds) 2009, 56, fig. 63, nos 17–20). It is likewise possible that a further Cuerdale terminal fragment (1:644) formed part of another such unfinished arm-ring, given that its pattern of lightly incised lines might well represent a design for stamped decoration, as would appear to be the case with the scratched 'ornament' on two arm-ring fragments in the unpublished hack-silver hoard from Creaghduff, Co. Westmeath (Graham-Campbell and Sheehan 2009, 82).

2 The second lead 'trial-piece' from Torksey is that referred to above (p. 106 and note 33); see now Blackburn 2011, 242, where he also draws attention to a third piece of lead sheet 'used to test a simple annulet punch'.

3 There are numerous difficulties encountered in endeavouring to record these stamps accurately, such as incomplete striking, angled striking and over-striking, as well as from damage caused during conversion to hack-silver (and subsequent usage). I am most grateful to Karen Hughes, at the British Museum, for the great care taken by her during their study and her patience in recording so many examples; the drawings of the stamps employed on Cuerdale ornaments in the Ashmolean and Liverpool Museums were kindly prepared for publication by staff of the respective institutions.

4 Some terminological confusion exists, in English-language literature (at least), by the use of the term 'ring-and-dot' in this connection. It is inevitable that the use of a ring stamp will leave a 'dot' (or what is here described as a pellet), so such does not need to be mentioned separately; on the other hand, as is sometimes the case, when such is described as a 'raised' dot or pellet, this is clearly erroneous because, whilst the ring is sunk into the surface, the pellet does not rise above it. In the case of bone and antler objects, the 'dot' is a centring point with a cut circle.

5 Although the exact shape of the stamp used to decorate arm-ring fragment **1:1,144** cannot be determined, it appears to be a further example of a triangle containing two pellets.

6 For further typological discussion of 'thistle-brooches', see Chapter 6.

7 The substantial 'thistle-brooch' pin-head in the Ballaquayle hoard (**13:7**) was also cast in one piece together with its pin.

8 A larger selection of illustrations of these designs is available in Johnson 2001, figs 27–9 (prepared by Brian Arthur); however, these are 'schematic' in nature.

9 E.g. for Scandinavia: Duczko 1985; Eilbracht 1999; Armbruster 2004; and Fuglesang and Wilson (eds) 2006; for Britain and Ireland, see the listed publications by Niamh Whitfield.

CHAPTER 9
Contents and Contexts: A Discussion

Although the primary purpose of this volume is to document the British Museum's collection of Viking-age gold and silver from Britain and Ireland, this concluding chapter discusses some of the issues raised by this material, concerning hoards and single-finds, their find-contexts (where known) and some possible reasons for their deposition.

Reasons for deposition

There has been much recent discussion of the reasons for the deposition and non-recovery of so many Viking-age silver hoards in both Scandinavia and the west (e.g. Brooks and Graham-Campbell 1986; 2000; Hårdh 1996; Steen Jensen *et al*. 1992; Graham-Campbell 1995, 61–2; Zachrisson 1998; Graham-Campbell and Sheehan 2009, 88–90). It is, therefore, hardly necessary to embark here on a further contribution to an ongoing debate, but some of the material under discussion raises relevant points.

Reduced to basics, an attempt needs to be made to decide whether an object/hoard was deposited: (i) with no intention of recovery, i.e. for ritual reasons; or (ii) for safe-keeping, i.e. with the owner(s) having every intention to recover it; or (iii) as an accidental loss.

Once an interpretation has been arrived at (wherever possible), other questions arise. If the deposit is regarded as being ritual in intent: was it either (i) an offering to the gods; or (ii) a deposit made according to Odin's (so-called) law, for use in the afterlife; or (iii) for some other purpose, such as the establishment of territorial boundaries, or as a foundation deposit?[1] If, however, the deposit is regarded as having been made for safe-keeping: was it either (i) intended to be hidden on a long-term basis (that is until needed for use); or (ii) was it concealed for reasons of an emergency (and, therefore, hopefully on a short-term basis)? If the object (or a purse)[2] was lost accidentally, it may well lack any significant context, but accidental losses also include the extensive collections of material from such 'productive' sites as those at Torksey, Lincs, and in 'North Yorkshire', which have been much referred to in previous chapters. On such sites, where all the material has been recovered by metal-detecting, there is an inherent methodological problem concerning the possibility (or otherwise) of being able to distinguish an actual hoard (given that such might have suffered from plough-dispersal) from the general distribution of accidental losses across the site. As matters stand at present, a coinless hoard once postulated for Torksey is now discounted (p. 18, note 16, above), whereas the existence of a mixed hoard, deposited *c.* 875, is accepted for the 'North Yorkshire' site (Ager and Williams 2007).

Hoards

Gold hoards

The scarcity of gold in comparison to silver, and thus its higher value, means that, although Viking-age gold hoards of Scandinavian character are known from both Britain and Ireland, they are uncommon. One of the two gold hoards known from Scandinavian Scotland consists of four finger-rings, found at Stenness, Orkney (Graham-Campbell 1995, 130–1, no. 27, pl. 50,b); the other, which is provenanced only to the Western Isles, although most probably from North Uist, is more complex in its contents (including 'hack-gold'), so that it has been suggested that it might represent 'the stock-in-trade of a goldsmith' (*ibid*., 127–9, no. 25, pl. 50,a). A similar suggestion has been made for the small Manx gold hoard (**Fig. 1.16**), from Greeba (Wilson 2004; 2008, 114–15, fig. 54).

From Ireland, the spectacular (lost) hoard of ten gold arm-rings from Hare Island, Co. Westmeath (**Fig. 1.4**), which together weighed *c.* 5kg, has already been noted as the largest known Viking-age gold hoard (Graham-Campbell 1974). This compares with the 2.59kg of gold in the Hoen hoard, from Norway, the largest such treasure known from Scandinavia (Wilson, in Fuglesang and Wilson (eds) 2006, 22), although the gold neck-ring found at Tissø, in Denmark, must (by itself) have weighed *c.* 2kg when complete (Graham-Campbell 1980, no. 215). Three smaller hoards of simpler gold arm-rings have also been found in Ireland: from Dromgarriff, Co. Cork, and Vesnoy, Co. Roscommon (Armstrong 1920, 94, nos 413–17, pl. xviii, figs 375, 396–8 and 400; Bøe 1940, 102–3);[3] and from Dublin, where two gold arm-rings were found together during the High Street excavations (*Viking and Medieval Dublin*, no. 10, pl. 17; Graham-Campbell 1980, no. 220).

Although there are numerous individual finds of Viking-age and later gold rings from England (see Handlist no. 2), the only gold hoard of 'Viking character' so far known is the 'assemblage' picked up from under a gooseberry bush in the garden of Shotton Hall, Co. Durham (**6**).[4] The two mutilated arm-rings, from which it is chiefly formed (as discussed in Chapter 5), suggest a tenth-century date for its deposition. Other than to observe that Shotton Hall, which is near Peterlee (to the east of Durham), is situated on the northern edge of the northern Danelaw, or Viking 'Kingdom of York' (see **Fig. 9.2** below, no. 18), there is little of significance to be noted concerning the context of this nineteenth-century find.

Mixed silver and gold hoards

Given its value, it is not surprising that gold seems to have been utilised somewhat differently from silver in Viking-age Scandinavia. Quite apart from providing a more ostentatious alternative to silver in the display economy, it is possible that it

had some sort of symbolic value. At any rate, some such explanation is needed for the fact that mixed gold and silver hoards are uncommon from this period. Attention may be drawn, however, to three well-known examples from Norway (two of which consist exclusively of complete ornaments): Vulu, Sør-Trøndelag, with one gold neck-ring and three arm-rings to four silver neck-rings and one arm-ring, together with a silver ball-type brooch (Grieg 1929, 254–6, no. 104, figs 53–62); Hatteberg, Hordaland, which consists of a gold arm-ring together with a silver neck-ring and bossed penannular brooch (Bøe 1934; **Fig. 6.4**); and the mixed hoard from Slemmedal, Aust-Agder, deposited *c.* 920–5 (Blindheim 1981). In Britain and Ireland, however, before the (2007) discovery of the Vale of York hoard, with its single gold arm-ring, deposited *c.* 927–8 (**Fig. 1.8**; **Fig. 9.2**, no. 11), the only example was the single gold arm-ring (**13:1**) in the silver hoard from Ballaquayle, Isle of Man, deposited *c.* 970.[5]

The post-Conquest hoard from Soberton, Hants (**7**), deposited *c.* 1068, is likewise of mixed precious metal in that it combines two gold finger-rings with its silver coins.[6] In addition, there are two (lost) hoards, from Scotland and Ireland, which both contained a single gold finger-ring, together with other objects of silver: the coinless hoard from Gordon, Berwick (Graham-Campbell 1995, 102, no. 14, pl. 6); and that from near Mullingar, Co. Westmeath, deposited *c.* 985 (Graham-Campbell 1976b, 61, 68). Finally, from England, the silver hoard from Halton Moor, Lancs (**4**), deposited *c.* 1025, is to be noted for having contained six repoussé gold discs.

Silver hoards

The date of deposition of eight of the fifteen silver hoards catalogued here may be estimated reasonably closely, given that they are mixed hoards containing coins, whereas the remaining seven are coinless. The latter can therefore only be dated approximately, on the basis of their non-numismatic contents. The coin-dated hoards are (in order of deposition):

Cuerdale, northern England (**1**): *c.* 905–10
Goldsborough, northern England (**3**): *c.* 925
Ballaquayle, Isle of Man (**13**): *c.* 970
Tiree, western Scotland (**15**): *c.* 970–80
Inch Kenneth, western Scotland (**14**): *c.* 998–1002
Halton Moor, northern England (**4**): *c.* 1025
Soberton, southern England (**7**): *c.* 1068
Lark Hill, southern England (**5**): *c.* 1175.

It is immediately obvious from this list that the last two hoards, both deposited in southern England after the Norman Conquest, have nothing to do with Viking activity in Britain.[7] Indeed, in both cases, they have been included in this catalogue only because they contain finger-rings manufactured in a 'Viking' tradition. In the case of the two Hebridean hoards (from Tiree and Inchkenneth), too much uncertainty surrounds both their contents and contexts for worthwhile discussion, particularly given the fact that their surviving non-numismatic material (consisting of one ingot and a fragment of chain) makes little contribution to the general understanding of the distribution and use of Viking-age silver in Scotland (cf. Graham-Campbell 1995). There remain, therefore, just four mixed hoards for further consideration here (three from northern England; and one from the Isle of Man).

The seven coinless silver hoards are (by country):

Flusco Pike (no.1), England (**2**)
Nr Athlone, Ireland (**8**)
Co. Cork, Ireland (**9**)
Scattery Island, Ireland (**10**)
Unprovenanced, Ireland (**11**)
Ballacamaish, Isle of Man (**12**)
Unprovenanced, Scotland (**16**).

Nothing can, of course, be said about the find-contexts of the two unprovenanced hoards (**11** and **16**: from Ireland and Scotland, respectively), and nothing is in fact known about the contexts of the hoards from near Athlone (**8**) and Co. Cork (**9**). In the case of that found on Scattery Island (**10**), in the Shannon estuary, it has been suggested that it relates to 'the existence of an important Hiberno-Scandinavian settlement' there (Sheehan *et al*. 2001, 112–13; Graham-Campbell and Sheehan 2009, 82). However, the Irish finds that happen to form part of this catalogue are, *in toto*, too unrepresentative of the Irish hoard material as a whole to benefit from any further discussion here (cf. Sheehan 2010b, and forthcoming).

On the other hand, the Flusco Pike (no. 1) hoard deserves further consideration, both for the nature of its contents, consisting exclusively of penannular brooches (**2**), and for its relationship to the mixed hoard known as Flusco Pike (no. 2), deposited *c.* 925. At the same time, both Flusco Pike hoards need discussion in the context of the other two hoards catalogued here that were also buried in northern England during the decades between 900 and 930: Cuerdale (**1**) and Goldsborough (**3**). Finally, the coinless hoard from Ballacamaish (**12**) merits discussion, in a Manx context, alongside the more complex treasure from Ballaquayle (**13**).

Single-finds

Gold single-finds

The catalogue contains sixteen single-finds of gold objects, the majority of which are finger-rings:

Ingots:	1	(Ireland)
Arm-rings:	4	(3 England; 1 Ireland)
Finger-rings:	11	(8 England; 2 Ireland; 1 Scotland).

The nineteenth-century find of a gold ingot from Ireland (**17**) has no provenance other than 'Co. Cork'; its Insular parallels have been reviewed in Chapter 4. Two of the four gold arm-rings are mid-nineteenth-century finds, one from England (**20**) and the other from Ireland (**21**), which likewise have no specific contextual information. Their parallels were discussed in Chapter 5, together with the other two gold arm-rings, which are of greater interest in contextual terms, given that one was found in the sea (**18**) and the other on the seashore (**19**), suggesting that they may both have been ritual deposits.

An association between single-finds of gold ornaments and watery places has been noted for Scandinavia by Hårdh (1996, 134), and the Insular evidence has recently been reviewed, from an Irish perspective, by Graham-Campbell and Sheehan (2009). The most immediate parallel is provided by the gold arm-ring retrieved, by a diver, from the Sound of Jura, off the west coast of Scotland (Graham-Campbell 1995, 164, S24, pl. 72,c–d).

The large number of gold finger-rings (eleven) catalogued here is, as discussed in Chapter 5, no cause for surprise (cf. Handlist no. 2). The majority of these (eight) were found during the nineteenth century, but nevertheless some details of discovery are known for six of the eleven rings under discussion. Those with no recorded find-contexts comprise two from England (**28** and **32**), both those from Ireland (**34–5**), and that from Scotland (**36**).

Three of the nineteenth-century finger-rings (**26–7** and **31**) are described as having been 'ploughed up', whereas a mid-twentieth-century discovery (**33**) appears to have been a surface-find, 'within 10yds of stream…near to the public footpath' (BM Register). There is no evidence, therefore, for any of these four rings being anything other than accidental losses.

The only gold finger-ring in this catalogue to have been 'excavated' is that from Oxford (**29**), discovered during late nineteenth-century building works, but as such it is in fact no more than a casual find. It is described as having been found 'in a pit dug into the gravel six feet'; if so, it can hardly have been deliberately buried at such a depth, with intent for recovery. On the other hand, given that this elaborately plaited ring is most probably of eleventh-century date, it seems unlikely that the pit was dug for ritual reasons, and so it may well be another example of a chance loss, unless it was deliberately thrown into a conveniently open pit because it needed to be disposed of in a hurry (as stolen property?). It is important to note that this finger-ring is the one that, after being acquired by 'an Oxford antique dealer', was sold on as found 'in a stone coffin in St. Aldate's Street…opposite the great gateway of Christ Church' (for further details, see the Catalogue entry, pp. 260–1).

Finally, there is the finger-ring that was 'found in the river bed at the foot of Chew Valley, Saddleworth [**30**], being quite visible among the boulders and sand in the water', as reported by one of its finders (MME: *Correspondence File* (1915: G–M); letter from Herbert Horsfall, 8 April 1915). This is, therefore, another possible example of the ritual deposit of a gold ornament, in the manner of the gold arm-rings mentioned above (see also Graham-Campbell and Sheehan 2009, 77–9).

Silver single-finds

The catalogue contains six single-finds of silver objects: three arm-rings and three pendants. The three arm-rings (**22–4**) are unprovenanced finds from Ireland and thus, given that their types have been fully discussed in Chapter 5, there is nothing more to be said about them at this stage. The three silver pendants are all English finds made while metal-detecting, and there are no reasons for supposing that they were other than chance losses. Their types have also been discussed above, in Chapter 6, although both the tenth-century Borre-style pendant, from Norfolk (**40**), and the eleventh-century Danish coin-pendant, from Suffolk (**41**), represent (currently) unique imports from Scandinavia. The establishment of the chronology and distribution pattern of Thor's hammer pendants in England, as represented by (**39**), awaits the compilation of a full catalogue (cf. Handlist no. 3).

The wider context

Given the manner in which the British Museum's collection of Viking-age gold and silver has been accumulated (as described in Chapter 1), there is nothing of significance to be learned from its overall distribution in Britain and Ireland (**Fig. 1.5**). Although the Museum's holdings of such gold and silver from both Ireland and Scotland include individual objects of exceptional interest, the overall collections are to be considered unrepresentative of both these major regions of Scandinavian activity and settlement. In addition, the great majority (80%) of the finds catalogued here were found during the late eighteenth and nineteenth centuries (**Table 9.1**) and are consequently, for the most part, lacking in detailed information concerning their archaeological contexts, as has already been noted. Indeed, as **Table 9.1** demonstrates, over 50% of these finds were made during just three decades (1830–60). So little is known, therefore, about 'contexts' that hardly any new evidence can be derived from this body of material concerning the possible reasons for hoard deposition in north-west Europe during the early medieval period.

Hoard contexts: northern England

The immediate context of the Cuerdale hoard (**1**) has been documented in Chapter 2, in connection with the (1840) Inquest (**Fig. 2.1**), but a modern map serves to highlight the key locational features (**Fig. 9.1**). The hoard was buried in the south bank of the River Ribble at a point well above that at which it would have been navigable. Indeed, as the late eighteenth-century picture of Cuerdale Hall makes clear (**Fig. 2.2**), the Ribble would have been easily crossed at this point, and its importance as a north-south crossing is amply indicated

Table 9.1 Discovery dates (1780–2000) of the Viking-age gold and silver, from Britain and Ireland, in the British Museum (hoards in bold); some of the dates are approximate

					1859										
					1859										
					1858										
					1856										
					1856										
					1854										
					1853										
			1836		1852										
			1835	1848	**1851**										
			1833	1847	**1850**										
1785			1830	1845	**1850**	**1868**	1877		1896					**1989**	1998
1780 …	**1815**	1824	**1830**	**1840**	**1850**	1863	1871	**1881**	**1894** …	1914	1922 …	1950 …	1978	1987	1997

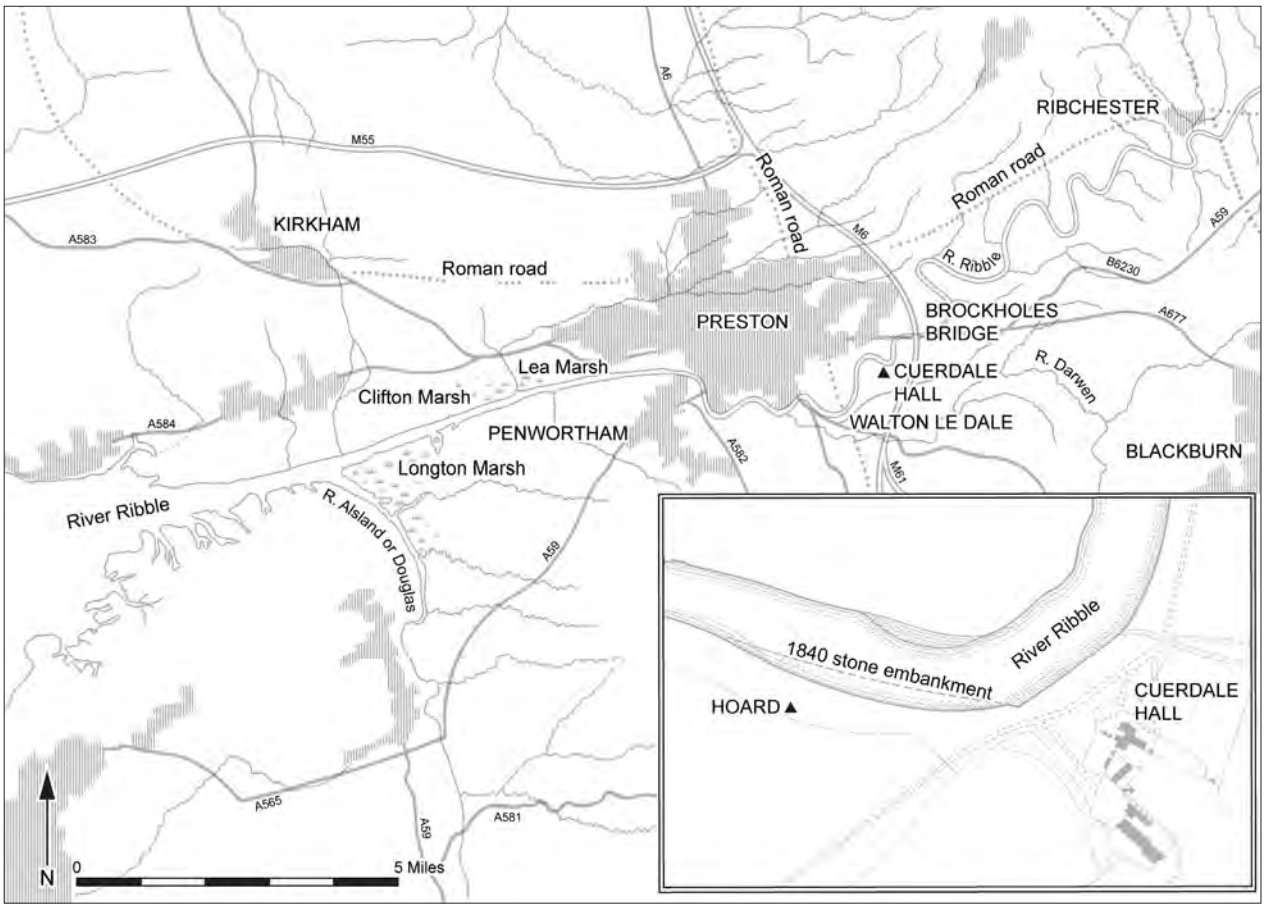

Figure 9.1 Location map of Cuerdale Hall and the (1840) find-spot of the Viking-age hoard in the late 20th century

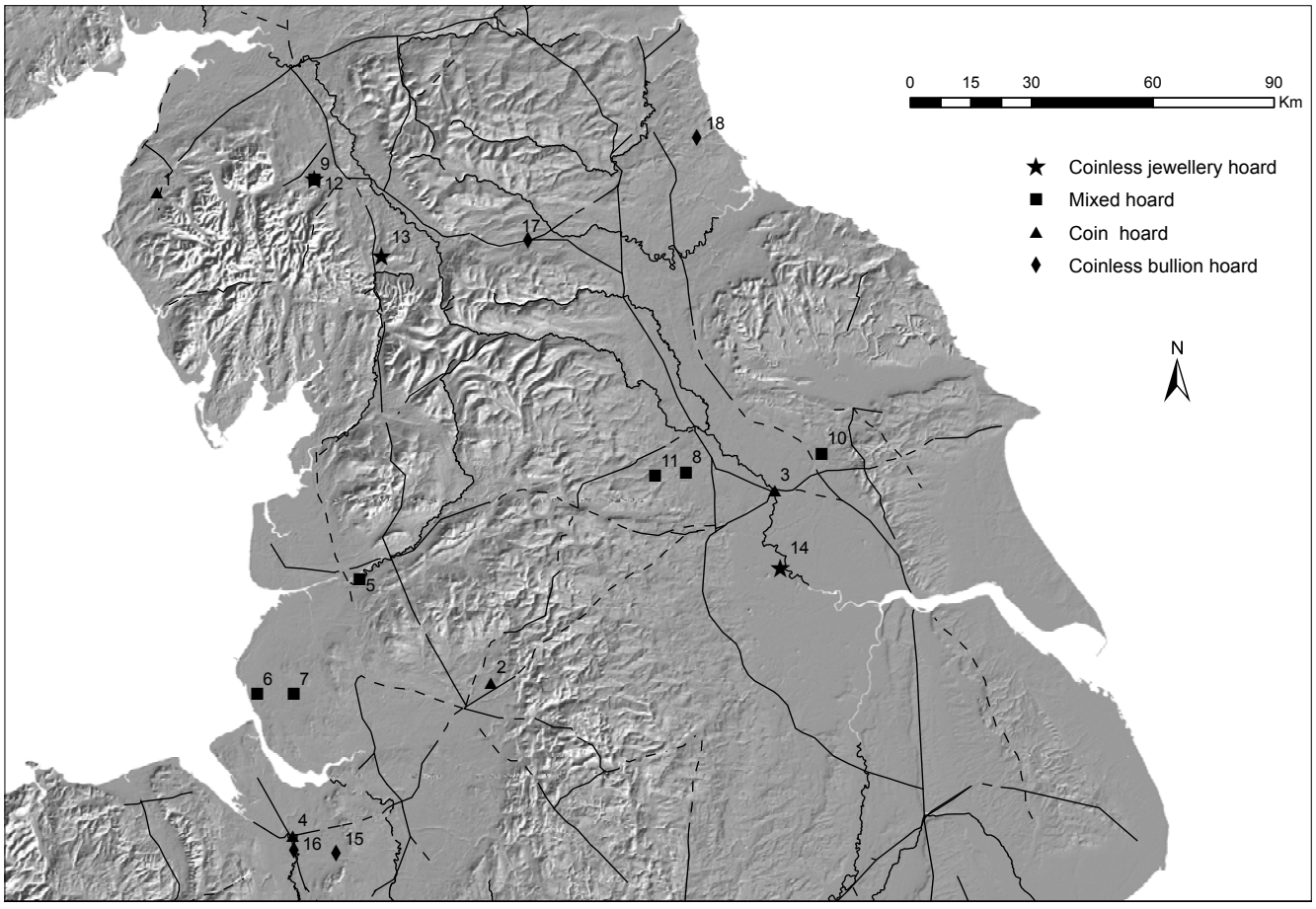

Figure 9.2 Location map of the silver hoards deposited in northern England during the first half of the 10th century, classified by type (after Williams, with additions); for key to numbers, see opposite

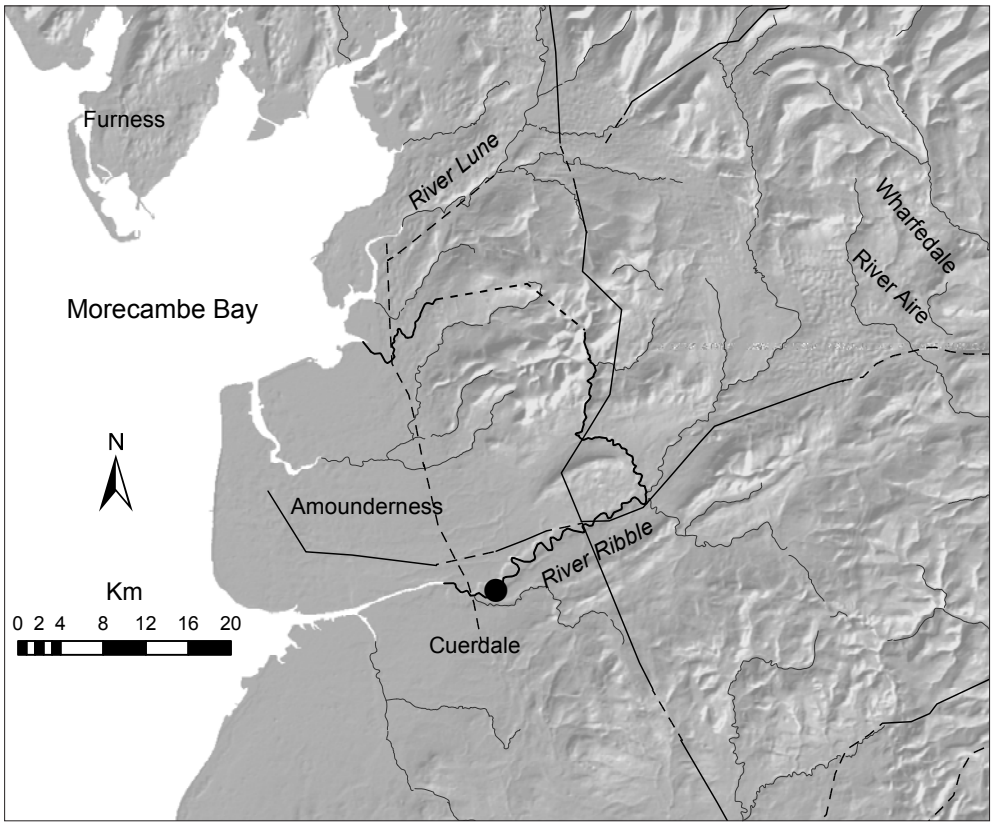

Figure 9.3 Location map of Cuerdale, in the Ribble valley, Lancs, with Roman roads

not only by the proximity of the stone road-bridge, but also its (M6) motorway successor (**Fig. 9.1**).

The Ribble itself opens up into a broad estuary, which, as noted by Higham (1992), could have served well as a base for a Viking fleet in exile. Only a basic map is required to demonstrate that the location of the Cuerdale hoard, in relation to the Ribble estuary (**Fig. 9.2**, no. 5), places it on a direct line between Dublin and York – the royal seat of the Northumbrian Vikings, with whom the Viking rulers of Dublin were intimately linked. Indeed, the Ribble valley was a well-established route, with a Roman road traversing the Pennines through the Aire Gap, which drops into the Vale of York at its eastern end (**Fig. 9.3**). Its geographical location alone is sufficient explanation for the presence in the Cuerdale hoard of two of its chief components – the abundance of identifiably Hiberno-Scandinavian silver amongst the bullion component (which may well represent the tip of an iceberg, given that the origin of the large quantity of ingots cannot be identified), together with a substantial number of freshly minted York coins amongst its numismatic contents.

The deposition of the Cuerdale hoard in north-west England, within the period *c.* 905–10, places it during the 'interregnum' experienced by the Viking elite of Dublin and Waterford, who had been driven out of Ireland and who only succeeded in re-establishing power in Dublin in 917. The River Ribble marks the southern boundary of Amounderness (**Fig. 9.3**), a district named after a Norse individual named *Agmund*. This was later purchased by Athelstan and presented by him (in 934) to St Peter's church, in York (Higham 1992, 24, fig. 3,1; Edmonds 2009, 7, fig. 1,1). It may be that Agmund was one of the Dublin exiles, which would certainly help to explain the suggested presence of a Viking fleet, not to mention the Cuerdale hoard itself, in this estuary/valley.

As Gareth Williams concluded in Chapter 3 (pp. 70–1),

> It is clear that the hoard represents material [coins] accumulated from a variety of sources, with parcels that had been removed from those sources at very different times. The close correspondence in date between the latest issues in each of the different numismatic elements in the hoard suggests that the hoard as a whole was only brought together a relatively short time before it was deposited. The fact that freshly-struck coins minted in York form the most recent addition to the hoard suggests that that element of the hoard at least was on its way from York at the time that the hoard was deposited. If one accepts that minting at York does not mean that there was any control of monetary circulation, there is no reason to suppose that any of the other numismatic material did not also come to Cuerdale via York. None of the coins was produced in the Irish Sea area, and the imported coins could just as easily have reached Cuerdale from York as from Ireland. In the case of the East Anglian and Midlands issues, this seems considerably more likely than not. Although the non-numismatic component of the hoard does contain much Irish material, accepting that a mixed economy continued to exist in the York area at this time means that there is no reason why that material could not also have accumulated in York.

Key to Figure 9.2:

Coin hoards
1. Dean, Cumbria
2. 'Lancashire'
3. York (Walmgate)
4. Chester (St John's)

Mixed hoards
5. Cuerdale, Lancs
6. Harkirk, Lancs
7. Warton, Lancs
8. Goldsborough, N. Yorks
9. Flusco Pike (no. 2), Cumbria
10. Bossall/Flaxton, N. Yorks
11. Vale of York, N. Yorks

Coinless ornament hoards
12. Flusco Pike (no. 1), Cumbria
13. Orton Scar, Cumbria
14. Selby, North Yorks

Coinless bullion hoards
15. Huxley, Cheshire
16. Eccleston, Cheshire
17. Bowes, Co. Durham
18. Shotton Hall, Co. Durham

Given that the political and economic context for the nature of this remarkable treasure is further discussed by Gareth Williams in Chapter 3 (above), based on its numismatic contents – as also in other recent papers by himself (2009; 2011; forthcoming a) – there is no need to engage in further speculation here. Indeed, suffice it to say, as over 150 years ago (Just 1851, 129):[8]

> It would be the wantonness of conjecture to presume for what purpose the Danes brought a treasure amounting to 7,000 pieces into Cuerdale, and equally so, to conceive a reason for their leaving them there.

The deposition of the most important eleventh-century hoard from northern England took place (*c.* 1025) in another Lancs valley, that of the River Lune (**Fig. 9.3**), at Halton Moor (**4**), where it was ploughed up in 1815. The Lune Valley displays 'a very marked concentration' of Anglo-Saxon and Anglo-Scandinavian stone sculpture, especially at Halton, Heysham and Lancaster (Newman 1996, 98; Bailey 2011), and 'it is notable that by the eleventh century Halton was the *caput* of the major Lune Valley land-holding' (Newman 1996, 103).

The deposition and non-recovery of two silver hoards on Flusco Pike, near Penrith, in what was Cumberland (**Cat. Fig. 33**; **Fig. 9.2**, nos 9 and 12), is particularly enigmatic. Flusco Pike (no. 2), as already noted (p. 10), is a mixed hoard coin-dated to *c.* 925 (Ager and Williams 2008). It is, therefore, quite conceivable that it was buried on the same occasion as the coinless hoard (**2**) now known as Flusco Pike (no. 1), the deposition of which has been dated, on typological grounds, to the 920s/30s (Graham-Campbell 2001b, 224; and see above pp. 118–19). These two hoards are completely different in character, with (no. 1) representing the display economy, consisting of brooches which together weigh over 2kg, and (no. 2) representing the bullion-based economy, with no complete ornaments and 'a total of up to 120 coins', with a combined weight of only 385.9g. The bullion component of Flusco Pike (no. 2) consists of one complete ingot and a collection of hack-silver derived from ingots, a ball-type brooch, a plaited neck-ring and other rings (although none is from Hiberno-Scandinavian broad-band arm-rings). Overall, this hoard – with its mixture of a small amount of hack-silver, Islamic, Anglo-Saxon and Danelaw coins – fits well with other hoards deposited during the 920s in northern England (cf. Goldsborough, to be considered below).

It is Flusco Pike (no. 1) that is problematic, given that it appears to have consisted exclusively of seven (originally) complete 'thistle' and bossed brooches, when such brooches were worn singly.[9] Its three bossed brooches belong to the sequence of Irish penannular brooches (as discussed in Chapter 6), with the proviso that the Norse *fuþark* incised on the back of one of them (**2:4**) was either added on the Isle of Man or by someone from Man. These brooches were the most prestigious ornaments available for wear by men, as cloak fasteners, in the Irish Sea area at this period. Unless the brooches are to be regarded as booty looted from defeated Vikings, their deposition together suggests the possibility of a communal act on the part of a group of Viking leaders. It is legitimate to speculate, at least, that they were the Northumbrian Vikings defeated by King Æthelstan in the immediate events leading up to the pledge of allegiance made to him, nearby, in 927.

Sihtric, the Scandinavian king of York (ex-Dublin), had allied himself with Æthelstan, as confirmed by his marriage to one of the English king's sisters (in 926), but shortly afterwards his death caused the alliance to collapse. Æthelstan was obliged to invade Northumbria in order to overcome Sihtric's successors Olaf, son of Sihtric, and Guthfrith, who was Olaf's uncle, from Dublin (Smyth 1979, 11). As described by Lapidge (1980, 91, with refs):

> Guthfrith took refuge with Constantine, king of the Scots; but in 927 Constantine and other northern leaders acknowledged the supremacy of Athelstan, thereby making him, in effect, king of all Britain. Constantine and the other kings pledged their allegiance to Athelstan *æt Eamotum* on 12 July 927.

Lapidge continues by identifying *Eamotum* (meaning 'at the meeting of the waters') with Brougham Castle (3 km/2 miles south-east of Penrith):

> … which stands at the spectacular confluence of the Rivers Eamont and Lowther and which had been a site of strategic importance since Roman times. A large Roman fort (*Brocavum*) was erected on this site and this fort must have been substantially preserved in late Anglo-Saxon times, since Henry II re-used its bricks in building the keep which stands there today. (*ibid*., 91, note 140)

There exists, therefore, archaeological evidence for the deposition and non-recovery of two Viking-age silver hoards (one exceptional in its contents) during the 920s, near Penrith. Likewise, there exists documentary evidence for a major historical event having taken place, near Penrith, in 927. It is, however, in the nature of the evidence that any possible connection between these events can only remain a matter of speculation and must be treated with great caution.

As suggested above, Flusco Pike hoard (no. 2) invites comparison with the Goldsborough hoard (**3**), which was also deposited at approximately the same time (*c.* 925). The two hoards are similar in size (the extant bullion of the latter weighing 323.9g). Goldsborough is known to have contained two complete ornaments (a 'thistle-brooch' and a pendant) and twelve pieces of hack-silver, derived from a mixture of brooches, rings and ingots, together with thirty-nine coins. However, unlike Flusco Pike (no. 2), the Goldsborough coins include no Danelaw issues, given that they are almost entirely Islamic (see Appendix 5), with just three Anglo-Saxon specimens, including the rare Alfred 'offering-piece' (which may even have travelled to Jerusalem and back).

Goldsborough is located at the opposite end of the trans-Pennine route, through the Aire Gap, from the Cuerdale hoard (**Fig. 9.2**, nos 5 and 8), and it has been suggested that the hoard was assembled in Ireland and brought over by a follower of Sihtric, king of Dublin, when he established himself as king of York in 920 (Graham-Campbell 1993a, 79 and 83; 2001b, 217–18). Although this attempt to link the hoard's deposition to a known historical event has been disproved by the later date (*c.* 925) advocated here by Gareth Williams (pp. 236–7), the fact remains that, amongst the fourteen pieces of bullion in the hoard, five Irish brooches are represented together with three fragments of Hiberno-Scandinavian 'broad-band' arm-rings. The origin of more than half (and maybe all) of the Goldsborough bullion in Ireland is thus in line with the absence of Danelaw coins so that the suggestion that the hoard, as a whole, was assembled in Ireland can be allowed to stand.

Hoard contexts: Isle of Man

All that is known about the discovery, in 1868, of the coinless hoard from Ballacamaish (**12**) is that 'some labouring men' found it 'in a marl pit' (Kermode 1885, 71), so that there can be no certainty that it is now known in its entirety. It is, however, unusual in containing what appears to be a complete neck-ring in three pieces, having had its terminals cut off (**12:1-3**), together with a second neck-ring (**12:4**), which has likewise had its (missing) terminals cut off. These ornaments have, therefore, been reduced to bullion, but appear not to have been circulated in this capacity because they are in good condition and have not been subjected to any nicking. On the other hand, the one complete ornament – an arm-ring (**12:5**) – is both worn and nicked. The Ballacamaish hoard does therefore present something of an enigma, and it is impossible to date its deposition, with any real confidence, more closely than to the tenth century. Its recovery from 'a marl pit' has suggested to Bornholdt Collins (2003, 200) that it might have been 'an offering rather than savings hidden for safe-keeping'.

In contrast, the substantial Ballaquayle (or Douglas) hoard, deposited *c.* 970 (**13**), invites comparison with two contemporary hoards from Britain: Castle Esplanade, Chester, deposited *c.* 965 (**Fig. 1.12**); and Skaill, Orkney, deposited *c.* 960–80 (**Fig. 1.3**). The Ballaquayle and Chester hoards share the fact that they are 'Irish Sea' hoards which both contain a large number of coins – well over 400 in the case of Ballaquayle,[10] with an estimate here of *c.* 800 (p. 253), and 'over 537' in Chester (Thompson 1956, no. 86; Webster 1953) – reflecting the increasing importance of coin-use in the mixed economy of the Irish Sea region during the second half of the tenth century (Metcalf 1992; Blackburn 2009; Bornholdt Collins 2010, 22–3). It will be recalled that both hoards suffered some degree of dispersal on their discovery by workmen, hence the element of uncertainty in the exact figures concerning their contents,[11] but they seem to have been approximately similar in size, by weight, with an estimate for Ballaquayle being *c.* 2kg and *c.* 2.4kg for Chester.

An essential difference exists, however, between these two hoards in their non-numismatic contents because the (probably) Manx merchant on a visit to Chester, in *c.* 965, had the largest amount of his silver in the form of bullion (*c.* 1.8kg), that is about 75% of the contents of the hoard by weight, whereas Ballaquayle appears to have been more like 50/50 (or maybe even 60% in coin by weight). There were no complete ornaments in the Chester hoard and its bullion consisted of some 100 ingots, both complete and fragmentary, with a far smaller quantity (some 42 small pieces) of general hack-silver. This suggests that the owner of this Chester hoard may have assembled his trading capital from a variety of sources and that the miscellaneous silver was then simply melted down into ingots. Such would doubtless have been a more convenient form in which to supply silver to the Anglo-Saxon moneyers at Chester for conversion into coin of the realm (rather than as large ornaments and/or small pieces of hack-silver). There must likewise be some such explanation for the contents of the later Manx hoard, from Glenfaba (mentioned above, p. 14), which contains 464 coins (Wt 557.51g), but also 25 ingots (Wt 777.24g) and one arm-ring (Wt 53.68g). The total weight of the Glenfaba hoard is thus *c.* 1.4kg, dividing up by weight approximately into 40% coins and 60% bullion.

The suggestion that the Chester hoard may have been carried there from the Isle of Man is supported by the work of Bornholdt Collins on the circulation of Anglo-Saxon cut halfpennies of the pre-reform period. Of the thirty-five recorded by her (in 2003), no less than sixteen derive from Man, with a further three forming part of this Chester hoard. Her conclusion (Bornholdt Collins 2010, 35) is that:

> Such are likely in this period to have been a distinctive characteristic of the Manx currency in the mid-tenth century. Despite the small sample, the proportions are such that examples in non-Manx contexts have a high probability of having been drawn from a currency pool in Man.

The inclusion of some 'ring-money' fragments in the Chester hoard (e.g. Webster 1953, fig. 2, nos 15–16) is also suggestive, in an Irish Sea context, of its having been accumulated in Man (see below).

In contrast to this merchant, the owner of the Ballaquayle hoard seems to have possessed just one small ingot (**13:20**), weighing only 6.16g, amongst his twenty (or so) silver items; these do, however, include eight complete arm-rings (in addition to the gold arm-ring, already mentioned), and a complete finger-ring (**13:6**). It is not surprising therefore that the eight items of extant hack-silver include four arm-ring fragments, but there is also a substantial piece of a neck-ring (**13:2**), which invites a comparison with Ballacamaish, as well as three pieces of the large 'ball-type' brooches (**13:7–9**), which had perhaps by then begun to go out of fashion in the Irish Sea region (cf. the presence of only two small fragments of 'ball-type' brooch in the Chester hoard, deposited *c.* 965 (**Fig. 1.12**).

The suggestion made by David Wilson (1974, 40), that the Ballaquayle hoard might be considered as 'the treasure of a single family who were one of the richest in the community living on what was later one of the rich medieval farms of the island', has been endorsed by Graham-Campbell (1983a, 69) and Bornholdt Collins (2003, vol. 2, Appendix viii, 43) According to the calculations by Bornholdt Collins (*ibid.*), the complete contents of the Ballaquayle hoard 'could have bought a flock of at least 330 sheep, and probably closer to 450–500 sheep'.

The low level of nicking on the ornaments and hack-silver in the hoard suggests that the rest of its contents had not seen much in the way of circulation. This agrees with the numismatic evidence, given the conclusion by Bornholdt Collins (*ibid.*) that the Ballaquayle coins were:

> Drawn from the active currency pool circulating in and around Man in the 970s, probably on a single occasion or at least over a relatively short period, rather than being added to sporadically over time like a savings account.

In the case of the Skaill hoard, Graham-Campbell has suggested (1995, 48, with refs) that:

> It would seem most reasonable to interpret the Skaill hoard as the accumulated capital of a Norse chieftain or other leader, or of the most prominent family within the local community, given that the Bay of Skaill represents one of Orkney's prime settlement locations.

The contrast between the Ballaquayle and Skaill hoards is partly one of size (with Skaill containing four times the amount of silver as the former), but another significant difference is that the Skaill hoard appears to have contained only twenty-one coins, meaning that its weight (a minimum of 8.11kg) is

made up almost entirely of the 115(+) pieces of non-numismatic silver (Graham-Campbell 1995, 34–48, 108–27, no. 24, pls 8–49). There are, however, some important similarities. Both hoards contain a high proportion of intact ornaments; for example, the Skaill hoard includes twenty-seven complete arm-rings of the 'ring-money' type of which there are seven complete examples in Ballaquayle (**13:4–5** and **12–17**). In addition, the comparatively small number of ingots in the Skaill hoard (four + eight fragments) reflects the presence of only one in Ballaquayle.

Graham-Campbell (1983a, 70–1; 1995, 41–3, with refs) has argued, on stylistic grounds, that at least some of the mid-tenth-century 'ball-type' brooches in the Skaill hoard were manufactured in the Irish Sea region – most probably in the Isle of Man – which therefore implies an additional outflow of silver to the north than is indicated by coins alone. There is, however, the evidence of the 'ring-money' for a reciprocal flow southwards. As discussed elsewhere in this volume (pp. 103–4), 'ring-money' is strongly associated with Scandinavian Scotland, although there are twenty-four examples known from Man, including those in the Ballaquayle hoard (with only seventeen on record from Ireland). Despite the small amount of evidence, in the form of the later Hiberno-Norse coinage (from *c.* 997 onwards), for a further flow of silver northwards from the Irish Sea region to the Earldom of Orkney, it is possible that this coinage formed one of the sources of silver for the production there of 'ring-money'.

No features were recorded in association with either of these 'rural' hoards, from Man and Orkney, except that both seem to have been deposited in deliberately constructed stone 'cists', whereas the 'urban' Chester hoard was contained in a Mercian pot (Dunning, in Webster 1953, 31–2, fig. 3,a, pl. ix,a; Axworthy Rutter, in Mason 1985, 40–55). In the case of the Ballaquayle hoard, the small cist was actually likened to a 'miniature stone grave', with long sides, ends and top of slate, inserted into a hole dug down into the natural clay (Quine 1901, 242–3).

As Dolley pointed out of the Ballaquayle hoard (1969, 122):

> It is not impossible that the occasion of its non-recovery was some series of disasters that seem to have hit the Vikings of Ireland and the Isles in the 970s and which culminated in the slaughter of the Battle of Tara in 980 when the Norse of Dublin finally lost control of the plain of Meath.

Simple, if now somewhat outdated, plots of the deposition dates of tenth-century hoards clearly reveal peaks of deposition and non-recovery during the 970s/80s in Ireland (Graham-Campbell 1976b, fig. 2), the Isle of Man (Graham-Campbell 1983a, fig. 3; updated in Wilson 2008, fig. 52), and the Western Isles of Scotland (Graham-Campbell 1993b, fig. 7,3). That observation apart, there is nothing more specific to be said in this connection.

Envoi

This study of the British Museum's collection of Viking-age silver and gold from Britain and Ireland has, for obvious reasons, been largely focused on the Cuerdale hoard. Even so, it can hardly be said to have addressed all the questions raised by this remarkable treasure. The significance of the other hoards and single-finds catalogued here might likewise have been explored in various alternative ways. The primary purpose of such a catalogue as this is, however, to make available the essential data in sufficient detail as to allow all those interested in the study of this material to be able to utilise it for their own research purposes – and thus to arrive at new interpretations and conclusions for the general advancement of Viking studies.

Notes

1 None of the material catalogued here from Britain and Ireland can be shown to belong to either of these two hoard categories.

2 There is no example of a purse-hoard in this catalogue, but such are normally considered to consist of only a few coins (e.g. the fifteen coins found in the remains of a leather purse at Næsbyholm, Sjælland, which was lost *c.* 1050; Glob (ed.) 1980, no. 17). Purse- or bag-fasteners may sometimes be present in a hoard, as in the Anglo-Saxon coin hoard from Tetney, Lincs, deposited *c.* 963, in a chalk container (Wilson 1964, nos 86–7), and that from the Forum in Rome, deposited during the 940s (Graham-Campbell and Okasha 1991); both of these finds contain a pair of hooked tags (and no other non-numismatic silver).

3 Although these two finds were excluded from my Irish hoard-list, on the grounds that they were possibly prehistoric in date (Graham-Campbell 1976b, 69), their rings are now considered to be of Viking-age type both by Mary Cahill (2006, 260–3, pl. xxi,a–b) and by Graham-Campbell and Sheehan (2009, 80–1, fig. 4); for further discussion, see John Sheehan, above (p. 95).

4 A small gold hoard was metal-detected in West Yorks (near Wakefield) in 2008, consisting of three Anglo-Saxon finger-rings (of ninth- and tenth-century date), together with a piece of a seventh-century cloisonné brooch and half an ingot; a further gold finger-ring was found in the same field in 2009 (*British Archaeology* (March/April 2010), 8; Webster 2012, fig. 190).

5 In an Anglo-Saxon context, attention should also be drawn to the Trewhiddle hoard, from Cornwall (deposited *c.* 868), which together with coins and ornamental silverwork is known to have contained a small gold ingot and a gold filigree-decorated pendant, both now lost (Wilson and Blunt 1961, 93–6, pls xxii,1–2, xxvi,c and xxvii,b; Blackburn 2007a, 93, C10, fig. 5,6); in addition, the set of four Anglo-Saxon silver strap-ends from Lilla Howe, Yorks, was deposited together with a pair of gold filigree-decorated discs (Webster and Backhouse (eds) 1991, 275–6, no. 249).

6 Another such post-Conquest mixed hoard, found in London (St Mary Hill), where it was deposited *c.* 1074, is now lost, but its gold brooch was not of 'Viking' type (Wilson 1964, 7 and 108); see also the Sutton, Isle of Ely, hoard mentioned below in note 7.

7 The mixed hoard from Sutton, Isle of Ely (deposited *c.* 1070?), clearly belongs to the same category as both Soberton and London (St Mary Hill), with its 'pseudo-Viking' silver disc brooch and lost gold rings (see above, p. 18).

8 'The late John Just, Esq., Grammar School, Bury' (Just 1851, 121) has been described by Edwards (1996, 12) as having 'specialised in Roman roads'.

9 The slight possibility that there might have been a further brooch in this hoard is considered above (p. 118).

10 There is an updated discussion of the composition of the Ballaquayle coins by Metcalf (1992, 101–2); but see now Bornholdt Collins 2003, *Corpus*, 22–43 [M6], as quoted in the catalogue entry (p. 252).

11 As described in the catalogue (pp. 251–3, with refs), some portion of the (1895) Ballaquayle hoard was dumped and many coins, at least, are known to have 'escaped'; in the case of the (1950) Chester hoard, an additional fifteen coins and five ingots came to light in 1975 (C.N. Moore, *Coin Hoards* 2 (1976), 113, no. 444).

Handlists

1. Viking-age and twelfth-century coin hoards found in Britain and Ireland containing non-numismatic gold and silver

Handlist of coin hoards from Britain and Ireland (*c.* 850–1180) that also contain gold and silver ingots, ornaments and/or hack-silver, as known to December 2009 (from Blackburn and Pagan (1986) and Blackburn (2007b, 140–3); numbered according to the on-line version of the 'Checklist of Coin Hoards', at www.medievalcoins.org). Hoards listed in ***bold italics*** are those included in this catalogue.

Abbreviations

E = England; I = Ireland; IoM = Isle of Man; S = Scotland; W= Wales.

Ninth century *(from c. 850 onwards)*

54 Sevington, Wilts [E]: *c.* 850
56a Llanbedrgoch, Anglesey [W]: *c.* 850?
41 Kirkoswald, Cumberland [E]: 850s/860s?
59 Trewhiddle, Cornwall [E]: *c.* 868
64 Gravesend, Kent [E]: *c.* 871
67 Croydon, Surrey [E]: *c.* 872
71 Repton (no. 2), Derbys [E]: *c.* 874
73 Beeston Tor, Staffs [E]: *c.* 875
— North Yorks 'productive-site' [E]: *c.* 875
46 Talnotry, Kirkcudbright [S]: *c.* 875?
77 Laxfield, Suffolk [E]: *c.* 878?

Early tenth century *(first half)*

87 ***Cuerdale, Lancs*** [E]: *c.* 905–10
91 Magheralagan, Co. Down [I]: *c.* 910?
92 Harkirke, Lancs [E]: *c.* 910
93 Dysart Island (no. 4), Co. Westmeath [I]: *c.* 910
93a Co. Antrim? [I]: *c.* 910
101a Warton, Lancs [E]: *c.* 920–25
101 ***Goldsborough, N. Yorks*** [E]: *c.* 925
106 Bangor (1894), Caernarvon [W]: *c.* 925
109b Flusco Pike (no. 2), Cumberland [E]: *c.* 925
108 Bossall/Flaxton, N. Yorks [E]: *c.* 927
— Vale of York [E]: *c.* 927–8
111 Dunmore Cave (no. 1), Co. Kilkenny [I]: *c.* 930
115 Scotby, Cumberland [E]: *c.* 935
116 Skye (Storr Rock), Inverness-shire [S]: *c.* 935–40
117 Co. Dublin [I]: *c.* 935
120 Nr Deptford, Kent [E]: *c.* 935?
123 Cockburnspath, Berwick [S]: *c.* 940?
127a Plumpton, Sussex [E]: *c.* 945

Late tenth century *(second half)*

134 Monasterboice, Co. Louth [I]: *c.* 953
135 Mungret, Co. Limerick [I]: *c.* 953
129 Skaill, Orkney [S]: *c.* 960–80
141 Tetney, Lincs [E]: *c.* 963
144 Chester (1950), Cheshire [E]: *c.* 965
151b Dunmore Cave (no. 2), Co. Kilkenny [I]: *c.* 965
154 Killincoole, Co. Louth [I]: *c.* 970
158 Rahan (no. 2), Co. Offaly [I]: *c.* 970
162 Skye (no. 2), Inverness-shire [S]: *c.* 970?
165 ***Ballaquayle (Douglas)*** [IoM]: *c.* 970
167a Ireland/Isle of Man [?]: *c.* 970?
168 Machrie, Islay [S]: *c.* 970
169 Port Glasgow, Renfrew [S]: *c.* 970
170 Co. Kilkenny [I]: *c.* 970
171 ***Tiree, Argyll*** [S]: *c.* 970
175 Nr Oakham, Rutland [E]: *c.* 980
179 Mullingar (no. 1), Co. Westmeath [I]: *c.* 986
180 Iona Abbey, Argyll [S]: *c.* 986
— Ladestown, Co. Westmeath [I]: *c.* 995
182a Stornoway (Lews Castle), Lewis [S]: *c.* 990–1040

Early eleventh century *(first half)*

190 Tarbat, Ross [S]: *c.* 1000
192 Quendale, Shetland [S]: *c.* 1000
193 Burray, Orkney [S]: *c.* 1000
194 ***Inch Kenneth, Argyll*** [S]: *c.* 1000
199 London (Honey Lane) [E]: *c.* 1000
201b Barsham, Suffolk [E]: *c.* 1000
209 Jedburgh (Bongate), Roxburgh [S]: *c.* 1025?
212 ***Halton Moor, Lancs*** [E]: *c.* 1025
216 Parkhill, Lindores, Fife [S]: *c.* 1030?
217 Fourknocks, Co. Meath [I]: *c.* 1030
— Glenfaba [IoM]: *c.* 1030
221 Caldale, Orkney [S]: *c.* 1035
230 Kirk Andreas (no. 2) [IoM]: *c.* 1045
231 West Nappin [IoM]: *c.* 1045

Late eleventh century *(second half)*

245 Dunrossness, Shetland [S]: *c.* 1065?
248 Kirk Michael (no. 2) [IoM]: *c.* 1065
259 Oving, Sussex [E]: *c.* 1066
260 London (Queen Victoria St: 'Walbrook') [E]: *c.* 1066/74
263 ***Soberton, Hants*** [E]: *c.* 1068
266 Oulton, Staffs [E]: *c.* 1069
276 Sutton (Isle of Ely), Cambs [E]: *c.* 1070?
282 London (St Mary Hill) [E]: *c.* 1074
289 Clonmacnoise, Co. Offaly [I]: *c.* 1090

Twelfth century *(to c. 1180)*

427 St Blane's (Plan Farm), Bute [S]: *c.* 1155
436 Brackley, Northants [E]: *c.* 1170
439 ***Lark Hill, Worcs*** [E]: *c.* 1175

2. Viking-age gold rings found in Britain and Ireland

Handlist of Scandinavian-type (a) neck- (b) arm- and (c) finger-rings of gold from Britain and Ireland (as known to December 2005), of ninth- to eleventh-century date (including twelfth-century finger-rings of Viking character). Rings listed in ***bold italics*** are those included in this catalogue, with their numbers in brackets; Scottish rings are numbered as by Graham-Campbell (1995).

Abbreviations

AM: Ashmolean Museum; CM: Chester Museum; CalM: Carlisle Museum; CanM: Canterbury Museum; CamM: Campbeltown Museum; ChM: Chichester Museum; ColM: Colchester Museum; DM: Derby Museum; FM: Fitzwilliam Museum; HM: Hastings Museum; HWM: Hereford and Worcester Museum; MoL: Museum of London; MM: Manx Museum; NCM: Norwich Castle Museum; NMI: National Museum of Ireland; NMS: National Museums of Scotland; PP: private possession; RM: Rotherham Museum; UM: Ulster Museum; VA: Victoria and Albert Museum; YM: Yorkshire Museum.

Key

bd = band; frag = fragment; kn = knitted; pl = plaited; rd = rod (single); tw = twisted; ws = wires.

(a) Gold neck-rings

There are no recorded finds of Viking-age gold neck-rings from England, Ireland or the Isle of Man.

SCOTLAND

Braidwood Fort, Midlothian [lost: S2]: single-find (tw)

(b) Gold arm-rings *(including fragments)*

ENGLAND

Brightlingsea, Essex [AM]: single-find (tw)
Nr Eastbourne, Sussex [***18***]: single-find (pl)
Goodrington, Devon [***19***]: single-find (tw)
Shotton Hall, Durham [***6***]: 'assemblage' of two frags (1 tw; 1 rd)
Torksey, Lincs [FM]: frag = single-find (rd)
Torksey, Lincs [PP]: frag (in hoard?) (rd)
Wendover Dean, Bucks [***20***]: single-find (tw)
West Wratting, Cambs [FM]: frag = single-find (bd)
'York' [YM]: single-find (tw)

IRELAND

Clonmacnoise, Co. Offaly [NMI]: frag in coin hoard (pl)
Nr Clonmel, Co. Tipperary [lost]: frag = single-find (bd)
Dromgarriff, Co. Cork [lost]: two = coinless hoard (bd)
Dublin (High Street) [NMI]: two = coinless hoard (2 tw)
Edenvale, Co. Clare [lost]: single-find (bd)
Hare Island, Co. Westmeath [lost]: ten = coinless hoard (various: **Fig. 1.4**)
Munterconnaught (nr Virginia), Co. Cavan [***21***]: single-find (kn)
Rathedan, Co. Carlow [NMI]: single-find (tw)
Vesnoy, Co. Roscommon [NMI]: five = coinless hoard (4 bd; 1 rd)
Co. Wexford [PP]: single-find (rd, with animal-head terminals)
Wicklow, Co. Wicklow [NMI]: single-find (rd)
Unprovenanced [NMI]: frag = single-find (kn)
Unprovenanced [NMI]: frag = single-find (tw)

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Ballaquayle, Douglas [***13***]: one in mixed hoard (tw)

SCOTLAND

Broch of Burgar, Orkney [lost: 15]: two = coinless hoard (??)
Hebrides (North Uist?) [NMS: 25:9]: frag in coinless hoard (rd)
Iona Abbey, Argyll [NMS: 32:3]: frag in mixed hoard (rd)
Lismore, Argyll [CamM]: frag = single-find (?)
Oxna, Shetland [NMS: S11]: single-find (pl)
Sound of Jura [NMS: S24]: single-find (tw)

(c) Gold finger-rings

ENGLAND

Aldersey, Cheshire [PP]: single-find (tw)
Balmer, E. Sussex [***26***]: single-find (tw)
Beachamwell, Norfolk [PP]: single-find (bd)
Nr Bexhill, E. Sussex [HM]: single-find (tw)
Canterbury (Dane John), Kent [CanM]: single-find (tw?)
Chester (St Werburgh Street), Cheshire [CM]: single-find (tw)
Chichester, W. Sussex [ChM]: two = coinless hoard (1 tw; 1 rd: **Fig. 1.15**)
Coddenham, Suffolk [PP]: single-find (tw)
Colchester, Essex [ColM]: single-find (tw?)
Flodden Field, Northumberland [lost]: single-find (pl or tw)
Goltho, Lincs [??]: frag = single-find (ws)
Great Wratting, Suffolk [PP]: two = coinless hoard (2 rd: **Fig. 1.14**)
Harwich, Essex [***28***]: single-find (rd)
Hayling Island, Hants [lost]: single-find (pl or tw)
Ivychurch, Kent [PP]: single-find (rd)
Kyre Park, Worcs [HWM]: single-find (bd)
Nr Lewes (Hamsey/Ringmer), E. Sussex [***27***]: single-find (pl)
London (Moorgate Street) [MoL]: single-find (tw)
Little Thurlow, Suffolk [PP]: frag = single-find (bd)
Oulton, Staffs [lost]: one in mixed hoard (?)
Oxford (High Street) [AM]: single-find (tw)
Oxford (Queen Street) [***29***]: single-find (pl)
Oxfordshire [lost]: single-find (bd)
Repton, Derbys [DM]: 1 in coin (grave) hoard (bd: **Fig. 5.16**)
Rotherham, Yorks [RM]: single-find (bd)
Saddleworth, W. Yorks [***30***]: single-find (rd, coiled)
Slinfold, Sussex [PP]: single-find (tw)
Sidmouth, Devon [PP]: single-find (tw)
Soberton, Hants [***7***]: two in coin hoard (1 pl; 1 rd)
Suffolk [VA]: single-find (pl)
Nr Thaxted, Essex [***31***]: single-find (rd)
Thetford, Norfolk [NM]: single-find (bd: **Fig. 5.16**)
Walpole St Peter, Cambs [PP]: single-find (rd)
West Bergholt, Essex [***32***]: single-find (tw)
Weston Turville, Bucks [***33***]: single-find (tw)
Witley, Surrey [lost]: single-find (tw)
Workington, Cumbria [CalM]: single-find (rd)
York (Coppergate) [YM]: single-find (rd)
York (Fishergate) [PP]: single-find (rd)
York (Hungate) [YM]: single-find (pl)
Unprovenanced [PP]: single-find (tw)

IRELAND

Nr Drogheda, Co. Louth [***34***]: single-find (rd, coiled)
Dublin (Fishamble Street) [NMI]: single-find (pl)
Dublin (High Street) [NMI]: single-find (bd)
Islandbridge (Liffey), Co. Dublin [UM]: single-find (bd)
Nr Mullingar, Co. Westmeath [lost]: one in hoard/grave (?)
Shanmullagh, Co. Armagh [UM]: one in 'assemblage' (bd)
Nr Waterford, Co. Waterford [***35***]: single-find (pl)
Unprovenanced [NMI]: single-find (tw)
Unprovenanced [NMI]: single-find (tw)

ISLE OF MAN

Greeba, German [MM]: three (1 frag) = coinless hoard (pl; tw; rd: **Fig. 1.16**)

SCOTLAND

Bannockburn, Stirling [lost]: single-find (pl or tw)
Cliffdale, Shapinsay, Orkney [lost]: single-find (pl or tw)
Colli Ness, Sanday, Orkney [lost: U1]: single-find in grave (?)
Dunfermline, Fife [lost]: single-find (pl or tw)
Fladda Chuinn, Skye [NMS: S3]: single-find (pl)
Gordon, Berwick [NMS: 14:1]: one in coinless hoard (tw)
Hebrides (North Uist?) [NMS: 25:1–7]: seven in coinless hoard (5+1 pl; 1 rd)
Inverary Park, Argyll [lost: U8]: single-find (?)
Iona (St Ronan's Church), Argyll [NMS: U7]: one in coinless hoard (pl)
St Andrews, Fife [NMS: U6]: single-find (tw)
St Blane's (Plan Farm), Bute [NMS: U4-5]: two in mixed hoard (1 pl; 1 tw)
Skye [NMS: S12]: single-find (bd)
Skye [NMS: S13]: single-find (tw)
Stenness, Orkney [NMS: 27]: four = coinless hoard (2 bd; 1 pl; 1 tw)
Tundergarth, Dumfries [***36***]: single-find (bd)
Whalsay, Shetland [NMS: S14]: single-find (tw)

WALES

Nercwys, Flintshire [PP]: single-find (bd)

(d) Unclassified/uncertain gold of Viking-age/Late Norse date from Scotland

SCOTLAND

Arinabost, Coll [lost]: frag = single-find (tw)
Shetland [lost: U3]: single-find = neck/arm-ring? (bd or rd)
'Swinasting', Shetland [lost: U2]: single-find (tw)

3. Gold and silver Thor's hammer pendants from England

Handlist of the thirteen gold and silver Thor's hammer pendants, of Viking-age type, known from England (to December 2005); all are metal-detected single-finds from the area of the Danelaw, with the exception of that from the Cuerdale hoard and that excavated from Grave 511 at Repton (Biddle and Kjølbye-Biddle 2001, 61, fig. 4,14, no. 1). The plain silver pendant from the Goldsborough hoard is catalogued here as 'cruciform' (***3:12***). For further references, see Chapter 6 (and Appendix 1). Pendants listed in ***bold italics*** are those included in this catalogue, with their numbers in brackets.

Cuerdale, Lancs [***1:1,115***]: plain silver (dep. *c.* 905–10)
'Essex': plain silver
Great Witchingham, Norfolk: plain silver, with gold filigree inset
Nr Holt, Norfolk: plain silver
Leconfield, E. Yorks [***39***]: silver, with stamped decoration
'Norfolk': plain silver, with gold filigree inset
Repton (Grave 511), Derbys: plain silver (**Fig. 6.16**)
Sibton, Suffolk: silver, with stamped decoration
South Lopham, Norfolk: gold alloy, with stamped decoration on both sides
Surlingham, Norfolk: plain silver
Swithland, Leics: silver, with stamped decoration on both sides
Wetwang, East Yorks: plain silver
Unprovenanced: silver, with stamped decoration

Catalogue

Introduction

The objects described and illustrated in this catalogue comprise all those in the British Museum, other than coins, of Viking-age gold and silver – made either in Scandinavia or in a Scandinavian tradition – which have been found in Britain and Ireland (up to December 2000). It also includes those objects of precious metal that are of Anglo-Saxon, Insular and Continental manufacture and which form part of hoards of 'Viking character', as defined in Chapter 1. In addition, for reasons of completeness, all the dispersed non-numismatic material from the Cuerdale hoard has been catalogued (**1**,a–e), as well as that from the hoards found at: Goldsborough (**3**,a–c) and Halton Moor, England (**4**,a–c); near Athlone (?), Ireland (**8**,a–b); and Ballaquayle, Isle of Man (**13**,a–b).

The catalogue consists of two parts: Part I comprises the mixed and coinless hoards of Viking character (**1–16**), and Part II the single-finds (**17–41**). These are both ordered alphabetically by country and find-place, although the single-finds are further divided up by artefact type, separated into objects of gold and silver. Unprovenanced finds are placed at the end of each relevant section, arranged in their order of acquisition by the British Museum. The date of acquisition, when known, is given in brackets after the find-place or catalogue number.

There is also an Appendix in which eleven pieces are catalogued which have been attributed to the Cuerdale hoard, but which are either fake or falsely provenanced (Appendix 2, nos 1–7). A fake silver Thor's hammer 'reputedly' found 'near Carlisle', purchased by the British Museum in 1989, is identified as such in Appendix 1.

Part I Viking-age hoards: mixed and coinless (1–16)

ENGLAND

1 Cuerdale, Lancs (1841): mixed hoard (deposited *c.* 905–10)
2 Flusco Pike (no. 1), nr Penrith, Cumbria (1991), including 'thistle-brooches' **37** (1904) and **38** (1909): coinless hoard
3 Goldsborough, North Yorks (1859): mixed hoard (deposited *c.* 925), with a contribution by Gareth Williams on 'The Goldsborough coins'
4 Halton Moor, Lancs (1815 and 1897): mixed hoard (deposited *c.* 1025)
5 Lark Hill, Worcs (1854): mixed hoard (deposited *c.* 1175)
6 Shotton Hall, Durham (1990): coinless hoard
7 Soberton, Hants (1851): mixed hoard (deposited *c.* 1068).

IRELAND

8 Nr Athlone (?), Co. Westmeath (1854): coinless hoard
9 Co. Cork (1851): coinless hoard
10 Scattery Island (Inis Cáthaig), Co. Clare (1836): coinless hoard
11 Unprovenanced (1897): coinless hoard.

ISLE OF MAN

12 Ballacamaish, Kirk Andreas (1870): coinless hoard
13 Ballaquayle (Douglas) (1895): mixed hoard (deposited *c.* 970).

SCOTLAND

14 Inch Kenneth, Argyll (1851): mixed hoard (deposited *c.* 1000)
15 Tiree, Argyll (1807): mixed hoard (deposited *c.* 970)
16 Unprovenanced (1851), including arm-ring **25**: coinless hoard.

Part II Single-finds of Viking-age gold and silver (17–41)

A Ingots (17)

There is only one single-find of a gold ingot in the British Museum (from Ireland), and none of silver.

IRELAND

17 Co. Cork (1871): gold ingot.

B Rings (18–36)

There are no single-finds from Britain and Ireland, in the British Museum, of neck-rings (i), but there are (ii) four gold and three silver arm-rings (from England and Ireland), together with one unprovenanced silver arm-ring (**25**), although this probably formed part of an unprovenanced hoard from 'Scotland' (**16**), and (iii) eleven gold finger-rings (from England, Ireland and Scotland).

(i) Neck-rings

There are no single-finds of neck-rings from Britain and Ireland, in the British Museum.

(ii) Arm-rings (18–25)

ENGLAND

18 Nr Eastbourne, East Sussex (1990): gold arm-ring
19 Goodrington, Devon (1979): gold arm-ring
20 Wendover Dean, Bucks (1849): gold arm-ring.

IRELAND

21 Munterconnaught (Virginia), Co. Cavan (1849): gold arm-ring
22 Unprovenanced; (?) Co. Westmeath (1853): silver arm-ring
23 Unprovenanced; from 'the North of Ireland' (1871): silver arm-ring
24 Unprovenanced (1897): silver arm-ring

UNPROVENANCED

25 Unprovenanced (no date); catalogued with the unprovenanced coinless hoard from Scotland (16), acquired in 1851: silver arm-ring.

(iii) Finger-rings (26–36)

ENGLAND

26 Balmer, East Sussex (1853): gold finger-ring
27 Nr Lewes (Hamsey/Ringmer), East Sussex (1897): gold finger-ring
28 Harwich, Essex (1871): gold finger-ring
29 Oxford (1905): gold finger-ring
30 Saddleworth, Yorks (Greater Manchester) (1915): gold finger-ring
31 Nr Thaxted, Essex (1897): gold finger-ring
32 West Bergholt, Essex (1870): gold finger-ring
33 Weston Turville, Bucks (1922): gold finger-ring.

IRELAND

34 Nr Drogheda, Co. Louth (1849): gold finger-ring
35 Nr Waterford, Co. Waterford (1849): gold finger-ring.

SCOTLAND

36 Tundergarth, Dumfries (1897): gold finger-ring.

C Brooches (37 and 38)

The two silver 'thistle-brooches' from Cumbria, both registered in the British Museum as single-finds, are listed here separately, although catalogued together with the Flusco Pike (no. 1) hoard (2).

ENGLAND

37 Nr Penrith, Cumbria (1904): silver 'thistle-brooch'
38 Newbiggin, nr Penrith, Cumbria (1909): silver 'thistle-brooch'.

D Pendants (39–41)

There are three single-finds of silver pendants in the British Museum (all from England).

ENGLAND

39 Leconfield, East Yorks (2000): silver Thor's hammer pendant
40 Little Snoring, Norfolk (1999): silver-gilt Borre-style pendant
41 Mildenhall, Suffolk (1987): silver-gilt coin pendant.

Notes to the catalogue entries

Entries

Each entry is headed by its catalogue number and find-place (in **bold**), as listed above, together with the current location of the find(s) and registration number(s), the manner and date of acquisition, and the date of discovery (in so far as it is now known). The contents of individual hoards are listed according to the order of their registration by the British Museum, followed by any material in other museums and information on any lost objects – with the exception of the Cuerdale hoard (1), where objects in other collections have been integrated by artefact category, i.e. *all* the known complete ingots are catalogued together, beginning with the so-called 'marks' (**1:1–11**), followed by *all* the ingot fragments (divided into those cut at one end and those cut at both ends). Some difficulties encountered with numbering the Cuerdale arm-ring fragments in the British Museum have resulted in the need to conclude the final 'Miscellaneous' section with a short 'Addenda' (**1:1,125–52**).

Definitions of artefact categories are as provided above (in Chapters 4–6).

Registration

The date of registration by the British Museum is indicated by the first element of an object's registration number. During the nineteenth century it was the practice for the year of registration to be recorded by its last two digits only (i.e. '41' stood for 1841), followed by the month, using a single or double figure as appropriate. This means that 41,7-11,1 was the first item '1' in the eleventh acquisition '11' to have been registered in July 1841. The full date of the year of registration has been in use since 1900. The twenty-first century has, however, seen a modification to the traditional system and all the registration numbers used in this catalogue have been standardised accordingly, so that (for example) 41,7-11,1 has become 1841,0711.1.

The prefix 'MME' stands for the (former) Department of Medieval and Modern Europe (now part of the Department of Prehistory and Europe); 'CM' for the Department of Coins and Medals; and 'PEE' for the Department of Prehistoric and Early Europe (now also part of the Department of Prehistory and Europe). Objects with registration numbers beginning with the letters 'AF' were acquired in 1897 as part of the Franks bequest, whereas 'OA' (for Old Acquisition) is used for those acquired at unrecorded dates, although this information has in fact been recovered for two of the three items in this category: the Halton Moor gold foil (**4:3**), acquired in 1815; and the Tiree silver ingot (**15**), acquired in 1807.

Note: when looking up objects in the British Museum Collections Online catalogue, the departmental prefix letters should not be used.

Abbreviations of names of museums and collections

The abbreviations used in connection with the registration numbers for other museums and collections containing Cuerdale material (1) are: AC, for the Assheton Collection; AM, for the Ashmolean Museum (Evans Collection), Oxford; LM, for National Museums Liverpool (Nelson Collection): Liverpool World Museum; FM, for the Fitzwilliam Museum, Cambridge; NMS, for National Museums of Scotland: Museum of Scotland, Edinburgh; CAA, for the University Museum of Archaeology and Anthropology, Cambridge; and SAL, for the Society of Antiquaries of London.

Hack-silver

The term 'hack-silver' is primarily used to classify those fragments of Viking-age silver that have been deliberately cut from ornaments and ingots for use as bullion. In this catalogue, the description 'cut' is used for the end of an object not only when it has been cleanly sheared through, but also when it has been part cut and then snapped in two. Objects broken accidentally or deliberately into fragments, as well as complete

pieces of casting waste, could also enter into circulation as hack-silver (rather than simply being destined for the crucible), as can readily be recognised from the presence of 'nicking' on some such examples (e.g. **1:365** and **366**).

Nicking

A single figure is given for the number of 'nicks', or testing marks, on an object, including all types of nicking, slicing and pecking (see pp. 78–9 and **Figs 4.4–5**). For the most part, these have been counted with the aid of a microscope, but in some cases there is uncertainty as to the exact total when difficulty has been experienced in distinguishing deliberate interventions from incidental damage or when the latter has disguised superficial nicking (which itself can be difficult to count accurately when the result of multiple cuts). Nicking may also be disguised if corrosion products are present when surfaces have been left uncleaned.

Measurements

Linear measurements are given in centimetres (cm), normally to the nearest millimetre; cross-sections are where possible the maximum (and sometimes also the minimum) dimensions of the original object, measured away from areas of damage and distortion. Weights are given in grams (g) to two decimal places.

ABBREVIATIONS OF MEASUREMENTS

D = diameter; L = length; W = width; H = height; T = thickness; Wt = weight.

Part I
Viking-age Hoards: Mixed and Coinless (1–16)

ENGLAND

1 Cuerdale, near Preston, Lancs (1:1–1,153 & 1,154–9)
Mixed silver hoard (with four bone pins, a bone needle and some lead fragments), found in 1840; deposited *c.* 905–10.

In various public and private collections: (a) the British Museum; (b) the Assheton collection (on loan to the British Museum); (c) the Evans collection (Ashmolean Museum, Oxford); (d) the Nelson collection (Liverpool World Museum); (e) other museums and private collections (ingots only); (f) lost recorded objects; (g) four bone pins and a bone needle (British Museum; Swarbrick collection; and the Harris Museum, Preston); and (h) lead fragments (Assheton collection).

(a) The British Museum: MME: 1841,0711.1–475 and 477–741; 1873,1101.1; and CM: 1906,1103.2517–21
The British Museum was presented with a selection of the coins and non-numismatic silver from the Cuerdale hoard, in 1841, by HM Queen Victoria, through the Chancellor of the Duchy of Lancaster (as described in Chapter 2). The non-numismatic material was officially registered by Edward Hawkins as 41,7-11,1–744, although nos 476 and 742–4 are in fact coin fragments which were transferred to the Department of Coins and Medals in 1975 (see Gareth Williams, Chapter 3 and Appendix 4). The actual number of pieces is, however, greater than this total of 740, given that in the case of seven entries (nos 666–9 and 696–8) more than one item was registered together. In fact, nos 666–9 together comprised a hundred items (now ninety-six), but the number of pieces covered by nos 696–8 was not originally specified in the BM Register (but is now sixty), so that it is impossible to determine the exact size of the original donation. Indeed, any attempt to reach such a figure is further complicated by the fact that in four instances, nos 232 (**1:450–1**), 233 (**1:452–3**), 312 (**1:511–12**) and 721 (**1:979–80**), two joining fragments were registered together (although clearly representing separate pieces of hack-silver). On the other hand, nos 230 and 342 have broken off the same sheet-band arm-ring as two (now three) pieces in the Assheton collection, also listed separately (AC: 85–6); given that all five fragile fragments join, they have been treated here as having comprised just one piece on discovery (**1:418,a–e**).

In conclusion, the number of non-numismatic items from the Cuerdale hoard received by the Museum, in the first instance, will have consisted of some 890 pieces, although six of these are now missing (nos 205, 260, 462, 474, 501 and 725). The latter have, however, been catalogued here from the BM Register, combined with information from old notes and photographs.

Since the original donation, the Museum has acquired six further items of Cuerdale bullion, in the form of ingots, on two separate occasions. A 'mark' ingot (**1:7**)was purchased in 1873, from the dealers Rollin & Feuardent (MME: 1873,1101.1), and five ingots formed part of a large gift from Dr F. Parkes Weber, in 1906, to the Department of Coins and Medals. The latter were transferred to the then Department of Medieval and Later Antiquities in 1989, although they have retained their original registration numbers (CM: 1906,1103.2517–21). This parcel would appear to have been deliberately selected, as if originally a Duchy allocation, for it ranges from a complete oblong ingot to one cut across both ends, together with three terminal fragments (**1:90**, **246–8** and **328; Pl. 7**), which together make up a well-balanced sample of Cuerdale ingots, if lacking a 'mark'. It seems reasonable to equate this parcel with that originally donated to the Royal Mint, which was seemingly disposed of by them sometime after 1874 and before 1906 (see p. 32 and note 69), when Weber was forming his collection.

The pedigree of the Museum's additional 'mark' is likewise unrecorded (**1:7**), but in this case, given its purchase from Rollin & Feuardent in 1873, it can be suggested that it may have formed part of Edward Wigan's collection which Rollin & Feuardent purchased *en bloc* in 1872, shortly after his death, when they gave the Museum first pick of his coins. In support of this suggestion, it should be noted that his uncle, J. Alfred Wigan, from whom he inherited his English collection in 1869 (Grierson and Blackburn 1986, 414), had received a Duchy allocation of eleven coins, after which he is known to have acquired further Cuerdale coins, including the unique Two Emperors coin of 'Halfdene' (see above, p. 30) that had belonged to Dr Moore (Blunt 1982, 3); the latter was not included in Moore's (1848) sale, in Preston, but on that occasion lot 314 consisted of a 'mark' (see below).

Eighty-four of the Cuerdale objects in the Museum were illustrated by Edward Hawkins, together with sixteen of those allocated to Assheton, in his magisterial, if selective, publication of the non-numismatic material from the hoard (1847, figs 1–100), some of which were reproduced in Graham-Campbell (1987a). Hawkins' two-part article, in the *Archaeological Journal*, was originally read as a paper at the York meeting of the (Royal) Archaeological Institute, in July 1846,[1] and was accompanied by 'A few remarks upon the antiquities of silver found at Cuerdale', by the young but eminent Danish archaeologist, J.J.A. Worsaae (1847), whose 'experiences and suggestions' had so 'greatly aided' Hawkins in his own study of the hoard (1847, 196).

Worsaae had visited London and the British Museum in June 1846, at the beginning of his extensive tour of Britain and Ireland, instigated by King Christian VII, specifically to seek out 'the monuments and memorials of the Danes and Norwegians' (1852, vii).[2] His first recorded impression of the Cuerdale hoard is contained in a letter written to C.J. Thomsen, Director of the Museum of Northern Antiquities in

Copenhagen, which was only completed by him on 24 August, after he had reached Kirkwall in Orkney (Hermansen (ed.) 1934, 303–6). He was inevitably struck by the similarity between the silver objects found at Cuerdale and those in the Danish hoards, but also by the presence of '29 Kufiske Mynter!!' (*ibid.*, 304).

Worsaae naturally went on to include an account of this 'highly remarkable and very ancient treasure of silver' in the book that he published in Denmark, in 1851, which was subsequently translated into English as *An Account of the Danes and Norwegians in England, Scotland, and Ireland* (1852, 48–51 and 105). His main concern on this occasion was, however, with the numismatic evidence so that his only illustrations of the hoard consisted of four coins. On the other hand, in 1849, William Thoms, on translating Worsaae's earlier book, *Danmarks Oldtid oplyst ved Oldsager og Gravhoie* (1843), which he entitled *The Primeval Antiquities of Denmark*, added to it a footnote on the subject of the Cuerdale hoard (1849, 60–1), quoting from Worsaae's (1847) paper, accompanying it with a reproduction of Hawkins' illustration (1847, fig. 21; **Fig. 5.8**) of the largest arm-ring in the Assheton collection (**1:443**).

W. Abram also reproduced a selection of Hawkins' (1847) illustrations, as a single plate consisting of four arm-rings and a finger-ring, to accompany his entirely secondary description of the Cuerdale hoard, in *The History of Blackburn, Town and Parish* (1877), 29–40. The account of the hoard by J. Garstang in *VCH: Lancaster*, I (1906), 258–9, is superficial, the only reference being to W.J. Andrew's paper, on 'Buried treasure: some traditions, records and facts', in the first volume of the *British Numismatic Journal* (1903–4), which contains a section on 'The Cuerdale hoard' (pp. 12–26), illustrated with two plates of forty-nine coins (pls i–ii); likewise, Garstang's only illustration consists of a plate of twenty-four coins.[3]

It was, indeed, the coins that provided the main focus for research into the hoard until well into the twentieth century (Thompson 1956, no. 112; Blackburn and Pagan 1986, no. 87). Even when Reginald Smith introduced the penannular brooch fragments into his paper on 'Irish brooches of five centuries' (1914, 242), he only illustrated one fragment (*ibid.*, 249, pl. xxviii, no. 4 = **1:1,011**).

When it came to compiling the volume of *Viking Antiquities in Great Britain and Ireland* (Shetelig (ed.) 1940, Part IV) devoted to 'Viking antiquities in England', the relevant text was simply reproduced from Hawkins by Bjørn and Shetelig (1940, 32–45), although their four plates (*ibid.*, figs 9–12), illustrating a selection of fifty-three ornaments and pieces of hack-silver, represent the first photographs to have been published of any Cuerdale artefacts, other than a plate of fifty-two ingots which appeared in *The Strand Magazine* (Anon. 1896, 657), and the single brooch fragment published in 1914. The brief description of the hoard by Reginald Smith in the *BM Guide to Anglo-Saxon Antiquities* (1923, 107–8) is illustrated with line-drawings of just nine items (*ibid.*, fig. 132), but these must have been copied from Hawkins (1847) because three of them (nos 1, 4 and 7) are, somewhat confusingly, of objects in the Assheton collection.

The hoard appears to have been fully displayed in the Museum during the later nineteenth century in the 'Gold Ornament Room' where, according to the (1896) *Guide to the Exhibition Galleries of the British Museum (Bloomsbury)*, 221, 'Case M. Anglo-Saxon period' contained (as quoted in Caygill 1997, 183, note 97):

> Silver ingots, portions of personal ornaments, etc., evidently stored as bullion and found with a great number of coins of Saxon kings and others in 1840 at Cuerdale in Lancashire, supposed to have been deposited about AD 910. Also portions of a like nature from the Isle of Man and from Goldsborough in Yorkshire.

In 1942, however, Thomas Kendrick wrote to the Liverpool collector, Philip Nelson, that:[4]

> I have always had a great affection for the Cuerdale hoard and I intend to make a really impressive show of it, a huge central pile of all the ingots (hitherto kept in drawers) and the coins, looking like a genuine pirates' hoard, and the ornaments distributed around the fringe. I hope after the war you will see the hoard = thus arranged!

Such was in fact not to be, and it was only in the early 1970s that the hoard was once again fully displayed in the British Museum, by Leslie Webster. In 1980, it formed part of *The Vikings* exhibition (see below) and, after its subsequent tour to New York, Minneapolis and Stockholm, it was remounted together with the material from the Assheton collection which was deposited on loan to the Museum in 1983.

The modern study of the bulk of the non-numismatic material in the Cuerdale hoard began in the 1970s and it is the lack of publication of even a complete inventory of its contents that has provided the impetus for the present catalogue, with preliminary studies by Graham-Campbell, reflecting work in progress, having appeared in print in 1987 and 1992 (1987a; 1992a; 1992b). On the other hand, two unpublished postgraduate theses have made substantial use of the British Museum's Cuerdale material: that by John Sheehan (1984), on Viking-age silver arm-rings from Ireland, and that by Susan Kruse (1988a), on the Viking-age silver ingots from England and Wales (although both these theses have given rise to several important papers by their respective authors).

A few Cuerdale items have received individual publication during recent decades, notably the two Anglo-Saxon pieces (**1:1,118–19**), with Trewhiddle-style ornament, in the Museum (Wilson 1964, no. 13; Graham-Campbell 1970), and the majority of the pieces derived from or related to bossed penannular brooches (Johansen 1973; Graham-Campbell 1975), with also some comment on the 'thistle-brooch' fragments (Graham-Campbell 1983b, 310–12, 320).

A major programme of silver analysis was initiated in 1972 when Dr Hugh McKerrell, then of the National Museum of Antiquities of Scotland, drilled over ninety samples; no results are available and his samples can no longer be located. It has not proved possible to undertake any further such research programme, although a small selection of material has been subjected to scientific analysis by Janet Lang (BM Research Laboratory), the results of which have been incorporated into the catalogue entries, including a previously published fragment of a bossed brooch (**1:1,010**; Lang and Graham-Campbell 1976).

The greater part of this material from the Cuerdale hoard, with a small selection of coins, was included in the exhibition organised, in 1980, by the British Museum and the Metropolitan Museum of Art, New York, on *The Vikings* (Graham-Campbell and Kidd 1980, nos 17, 254, 256, 259, 304 and 383–90, pl. 1 (colour), reproduced here as **Fig. 1.1**; Graham-Campbell 1980, nos 301, 344–6 and 357–64). In 1990, it formed

the centrepiece of the *Silver Saga* exhibition at Liverpool Museum, with a selection of coins (Philpott 1990, 36–7 (colour pl.), 66 and 77–80); this was held to mark the occasion of the 150th anniversary of the hoard's discovery and as much of its contents as possible were then reunited, together with associated and comparative material (Philpott 1990; Graham-Campbell (ed.) 1992). In 1992, a selection from the hoard was included in the 22nd Council of Europe Exhibition, entitled *From Viking to Crusader* (Roesdahl and Wilson (eds) 1992, 97, fig.1 (colour), 323, no. 361); in 2003, a smaller selection formed part of the temporary exhibition, *Treasure: Finding our Past*, at the British Museum (Hobbs 2003, 116–17), as also did another small selection, in 2008, in *Die Wikinger*, at the Historisches Museum der Pfalz Speyer (G. Williams, in Koch (ed.) 2008, 220–1).

(b) The Assheton Collection (in private possession: on loan to the British Museum): MME handlist: nos 1–160, with nos 161–3 (lead fragments)

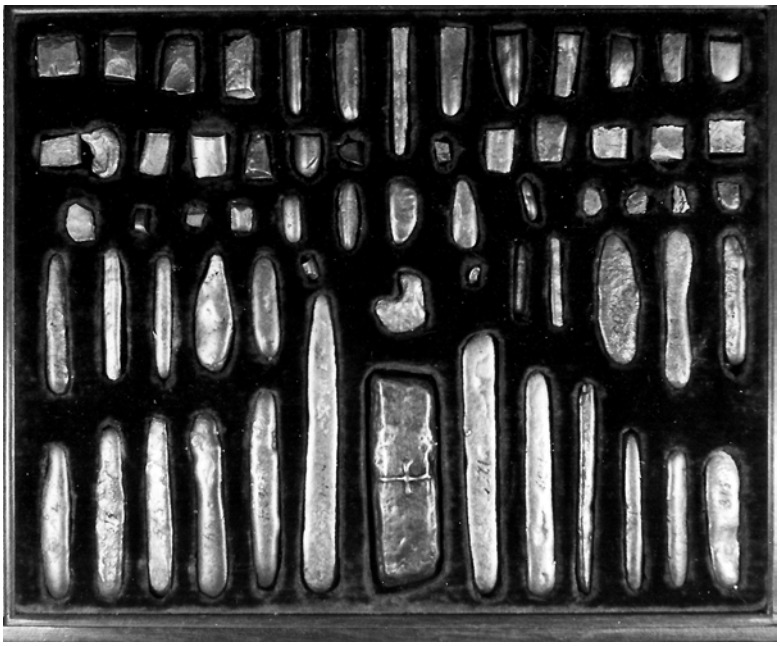
The greater part of the Assheton collection of non-numismatic material from the Cuerdale hoard consists of the (1841) gift of: 'Specimens of Ancient Coins and Silver Ornaments Found in May 1840 at Cuerdale in Lancashire on the Estate of William Assheton Esqr.', which were 'Presented to Mr. Assheton by command of Her Majesty Queen Victoria in whom they vested as treasure trove in right of her county Palatine of Lancaster.', according to the inscriptions on the two brass plates, placed on either side of a gold Coronation Medal, in the top drawer of the finely made cabinet which was commissioned by the Chancellor of the Duchy of Lancaster to house the collection, as described in Chapter 2.

This eight-drawer cabinet in rosewood veneer (**Fig. 2.4**) is ornamented with carved leaf friezes around its base and top, and outlining the panels of a pair of hinged doors, with brass lock, hinges and trim (35.5 x 29.5 x 23.5cm). The drawers are fitted with ivory handles; the upper seven are lined in red velvet, being fitted for coins (nos 1–4), ingots (no. 5) and ornaments/hack-silver (nos 6–7), whereas the bottom drawer is deep and plain. Together the top four drawers provide individual spaces for 261 coins, with drawer 5 being fitted for sixty-five ingots, including one 'mark' (Edwards 1998, 61, fig. 31; **Cat. Fig. 1**). The bottom drawer contained, *inter alia*, three groups of lead fragments from the hoard's original container (nos 161–3), one of which is in a paper inscribed 'J. Teesdale, Esq.' (**Fig. 6.23**), and the bundle of letters, etc., known above as the 'Assheton papers' (see Chapter 2).

The cabinet was in fact designed to accommodate such material additional to the Duchy's allocation as was then in Assheton's possession. As described above (p. 27), some of the documents preserved in it demonstrate that its non-numismatic contents were planned to comprise 147 items, although this total was in fact increased to 149. However, the collection can be shown to have grown subsequently to number at least 170 pieces, including four 'marks', although this total has varied through time.

When the Assheton collection was deposited on loan at the British Museum, in 1983, a handlist of its non-numismatic contents was prepared. The numbers then allocated by the Museum (nos 1–163) are those used here for the identification of the objects, although it should be noted that nos 161–3 comprise the surviving fragments of sheet lead from the container (**1:1,158**). However, in the original list the number 160 was given to what proved, on subsequent examination, to be a couple of tiny coin fragments that have consequently been transferred to the Department of Coins and Medals. It thus became possible to allocate no. 160 instead to a small circular ingot (**1:191**) that had been mislaid at the time. In fact, two sheet silver fragments (no. 86) have been broken off a larger fragment of a thin silver arm-ring (no. 85), most probably on or after discovery, so that not only have they been catalogued together here, they have also been combined with two further pieces of this particularly fragile ring, already in the Museum, with which they join (**1:418**).

This combination of nos 85 and 86 reduces the number of individual silver items now in the main part of the Assheton collection to a total of 159, but at least eleven further items are known to have been disposed of as gifts, on two separate occasions, so reaching the figure of 170 or more pieces, cited above. The two recorded gifts comprise: William Assheton's own presentation of a 'mark' and nine other objects, together



Cat. Figure 1 Assheton cabinet: drawer no. 5 (James Graham-Campbell)

with a selection of coins, to his bailiff, Jonathan Richardson (as documented below, under the Nelson collection); and Lord Clitheroe's donation of a further 'mark' to Christopher Blunt (**1:9**). It may therefore be concluded that over twenty items, including three 'marks', came to be added to the collection over the years, some of which are now known to have been purchased by William Assheton in the local Preston sale-room. Finally, his son Ralph purchased the pin-head of a 'thistle-brooch' (converted into a seal), together with five coins, from Jonathan Richardson, in 1873 (see below: 'Parcel 2'), raising the total of silver objects now forming the Assheton collection to 160 (other than coins). On the other hand, the loss of a plain finger-ring (**1:986**) has to be noted, as described above (p. 24 and **Fig. 2.3**).

In the context of William Assheton's acquistions, it is important to note that, when the contents of the cabinet were examined by James Graham-Campbell and Ben Edwards at Downham Hall, in 1972, at the invitation of Lord Clitheroe, there was a tissue-paper package in its bottom drawer then containing six pieces of silver, together with a label 'Lot 323'. Our photographic evidence (**Cat. Fig. 2**) demonstrates these to have consisted of nos 11, 67, 156–8 and 160 (**1:99**, **191**, **349**, **977**, **1,140** and **1,142**). At the same time, there was a second label loose in the drawer, reading 'Lot 321'.

The true significance of these two labels was only revealed several years later, in 1985, when part copies of five sale catalogues issued by John Burton, the Preston auctioneer (dating from 1848 to 1860), were communicated to Christopher Blunt.[5] The most important of these, for present purposes, is that for the sale held over seven days in April 1848, of the belongings of Dr Alexander Moore, deceased, described as 'A Gentleman equally eminent for his professional ability and his many private virtues', together with 'a few selections from the library and cabinet of Mr. William Gilbertson, deceased'. On the second day of Moore's sale, lot 323 (which has been annotated with Assheton's name) consisted of:

> An Ancient Armlet and seven portions of other ornaments of the person, stated, by the late owner, to have been found at Cow-hill, near Preston– very curious, and about 1000 years old.

There were also thirty-one unprovenanced ingots divided into eight lots, all of which were sold to unrecorded buyers, consisting of lot 314: 'A Mark, of the time of Alfred, used in the larger payments of that period'; lots 315–20, each comprising 'Four portions of the Mark, formerly used as money'; and lot 321, with 'Six' of the same. However, the following lot (no. 322), before the 'Cow-hill' parcel bought by Assheton, was very different in its contents:

Cat. Figure 2 Assheton collection: 'Lot 323' (James Graham-Campbell)

> Fragments of the leaden box which contained the "Cuerdale Find," and Leaden Coin from Furness Abbey.

The Cuerdale treasure could thus be mentioned in the context of its 'leaden box', whereas the provenance of the silver ingots was suppressed, even though there could have been no other plausible source for so many ingots in a Preston sale-room at this date, only seven years after the hoard had been found. At any rate, with regard to lot 323, Assheton does not seem to have doubted that Cow-hill and Cuerdale were to be equated. Indeed, there is no other reference to a Viking-age silver hoard having been found at Cow Hill, which is some 3.5 miles [*c.* 5.5km] to the north-east of Preston. In any case, Dr Moore is known to have been a Cuerdale collector (Blunt 1983, 3),[6] as of course was Gilbertson, the local chemist, who bought his first Cuerdale coins on the very day of their discovery and who was subsequently rewarded, for his assistance at the inquest, with an official allocation of coins (as described in Chapter 2).

The two labels (for lots 321 and 323) preserved with the Assheton collection demonstrate that it was increased, in 1848, by at least fourteen pieces as a result of purchases made at the Moore/Gilbertson sale. The infamous John Kenyon (for whom, see above, pp. 23–4 and 39–40) is identified as having bought a coin on the same occasion (lot 305),[7] but given that the surviving catalogue is incompletely annotated it cannot now be determined whether or not he went on to make any further purchases. There is, however, a familiar ring to the list of ingots forming lots 705–7 in his own sale which was held at Preston three years later, after his death, when he was described as having been an 'eminent Connoisseur and Collector' (Burton's, December 1851). The three lots in question were catalogued, amongst a selection of coins headed 'Anglo-Saxon– Cuerdale', as follows:

> 705 A MARK, of the time of ALFRED, used in the larger payments of that period– weight eight 8 ounces and a half.
>
> 705 4 portions of the Mark, weighing 382 gr., 191 grs., 236 grs., and 356 grs. respectively.
>
> 707 4 portions of the Mark, weighing 96 grs., 122 grs, 72 grs., and 46 grs. respectively.

Indeed, two of these lots (combined) are presumably to be seen passing through Burton's sale-room once again, in June 1856, as the property of 'an eminent connoisseur and collector, on the eve of an exodus to Australia', for its lot 330 comprised:

> MARK and portions of a Mark– time of Alfred: 5 pieces (Cuerdale) Broken pieces of six different coins found at Cuerdale

The problem with the sale of Kenyon's collection is that he would, of course, have had the opportunity of extracting ingots and other material for himself while he was making his illegal selection of Cuerdale coins (as described in Chapters 2 and 3). However, Blunt has argued (1983, 3) that Moore acquired coins from Kenyon so that he might well have supplied him with other material as well.[8] In which case, it might be considered somewhat surprising for him to have purchased it back again in 1848 and the 'mark', at any rate, might have been more attractive to Assheton, if it did not end up in the Wigan collection (as suggested above).

Be that as it may, Assheton is not known to have purchased at either of the two subsequent Burton sales described above,

but then in neither case is the fate of the material recorded. There is also no evidence for Assheton having bought Cuerdale objects on the London market, but one possibility presents itself with regard to a 'mark' ingot because that in the Cuff collection, when sold at Sotheby's (8 June 1854, lot 652), was bought by the dealer Cureton from whom Assheton is known to have acquired some coins.[9] As no other destination is known for the Cureton 'mark', and given this business connection, it seems reasonable to suggest that it represents one of the three extra specimens to have joined the Assheton collection.

Finally, there is the evidence of the hand-written note, by Ralph Assheton, recording his purchase– from his 'father's sometime bailiff'– of five coins and the 'Cuerdale seal', mounted on the pin-head of a 'thistle-brooch' (**1:1,001**), described above (p. 168) as 'Parcel 2'.

Sixteen of the most interesting pieces in the Assheton collection, all from the Duchy's allocation, were illustrated by Hawkins in 1847 (figs 21, 58/9, 64, 68–9, 80–81, 83–5, 94–5 and 97–100). As noted above, one of these was subsequently reproduced in Worsaae's *Primeval Antiquities* (1849, 61), and three were re-drawn for Smith's *Guide* (1923, fig. 132, nos 1, 4 and 7); others have simply been reproduced (Graham-Campbell 1987a, figs 8–9 and 11). A previously unpublished arm-ring from the Assheton collection (**Cat. Fig. 3**; **1:696**) was used to illustrate the 'Catalogue of Antiquities' that accompanied the report on the exhibition created for the 1846 Summer Meeting of the (Royal) Archaeological Institute held at York (see below).

The bossed brooch fragments (**1:1,002–15**) have been catalogued and discussed by Johansen (1973) and Graham-Campbell (1975, 35 and 47, pl. vii,c–d). Some of the ingots were first catalogued by Lewis (1982), followed by Kruse who was able to include them all in her unpublished PhD thesis (1988a), and the Hiberno-Viking arm-ring material was incorporated into Sheehan's unpublished MA thesis (1984). The only other pieces to have been published to date (Graham-Campbell 1985, 251–3, illus. 3 and 5) are an interlace-decorated strip (**1:1,120**) and a comb fragment (**1:1,121**), although the complete Thor's hammer pendant (**1:1,115**) was catalogued for *The Vikings in England* exhibition (Roesdahl *et al.* (eds) 1981, 88, F2). A lead fragment, provided by Lord Clitheroe (from **1:1,158**), was analysed by Dr Hugh McKerrell, at the Research Laboratory of the National Museum of Antiquities of Scotland, who reported in a letter (dated 3 November 1976) that it was 'virtually pure lead with no interesting or useful impurities'.

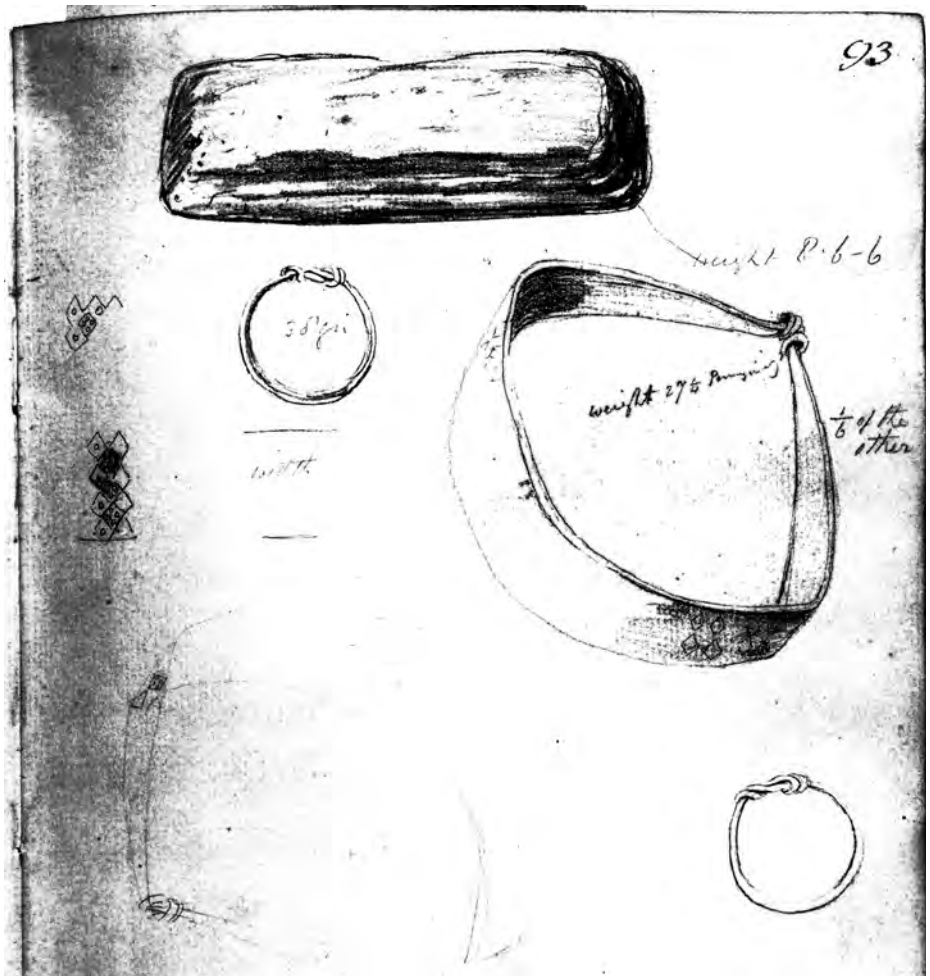
The Assheton collection was exhibited at the annual summer meeting of the Archaeological Institute of Great Britain and Ireland, held at York in July 1846, when Hawkins communicated his paper: 'An account of coins and treasure found in Cuerdale' (published in 1847).[10] It was deposited on loan at the British Museum in 1983, when it was put on public display, being subsequently loaned in 1990, together with its cabinet, the gold medal of Queen Victoria and a selection of coins, to Liverpool Museum for the *Silver Saga* exhibition (Philpott 1990, 66 and 76–7), although the Thor's hammer pendant, as just noted, had earlier formed part of the (1981–2) *Vikings in England* exhibition. The coins in the Assheton collection are discussed by Gareth Williams in Chapter 3, and listed by him in Appendix 4.

(c) The Evans Collection (Ashmolean Museum, University of Oxford): Reg. nos: 1909.519–1909.551a–g

The Ashmolean Museum received forty items of non-numismatic material from the Cuerdale hoard as part of the gift by Arthur Evans of 'the Collection of Anglo-Saxon Jewelry and other relics bequeathed to me by my father, Sir John Evans' (10 December 1908). Earlier, Sir John Evans had himself donated a cut ingot from Cuerdale to the Society of Antiquaries of London (p. 175) and had loaned an arm-ring for exhibition at the South Kensington Museum in 1872 (see below). However, the only reference to the Cuerdale hoard so far traced among the Evans papers, in the Ashmolean, is an offer from Charles Roach Smith, dated 9 January 1885, to send him a set of thirty Cuerdale coins 'as a New Year's gift. If you do not care for them tell me which Dealer would buy them'.[11] It is not known what became of this offer, because only one of the Cuerdale coins now in the Ashmolean derives from the Evans collection, given that the English part of it was bought *en bloc* by Pierpont Morgan, although eventually acquired by the British Museum.[12]

The only direct evidence as to the source of any of the Evans material is provided by the first entry in the Ashmolean register, where the Cuerdale parcel is catalogued as 1909.519–51, alongside which is the name: 'F.W. Fairholt, F.S.A.'. As previously noted, Fairholt had drawn Cuerdale coins for Hawkins, but he is not on record as having been allocated any Cuerdale material for himself (p. 34 and note 83).

Cat. Figure 3 Assheton collection: twisted rod arm-ring (**1:696**)



Cat. Figure 4 Charles Roach Smith, Notebook (p. 93) illustrating a plain 'mark' ingot (**1:3**), a stamp-decorated arm-ring (**1:444**; cf. **Cat. Fig. 13**), and a plain rod finger-ring (**1:990**); the two rings were subsequently purchased by John Evans at the sale of the Bateman collection (British Museum)

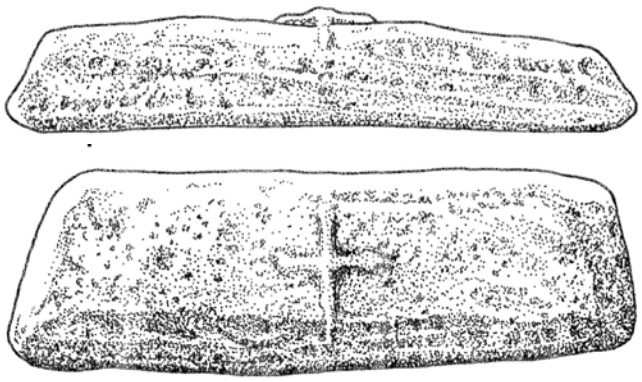
This entry (AM: 1909.519) consists of a pair of penannular arm-rings (**1:448–9**), with distinctive stamped ornament, consisting of circles between diagonal lines (forming a zig-zag). They may consequently be identified with lot 348 in Fairholt's sale (Sotheby's, 30 July–1 August 1866), when they were bought by a dealer, William Webster: 'A pair of Silver Armillae of Saxon work, ornamented with stamped circles and lines, found at Cuerdale'. The only possible reservation that there might be in accepting a Cuerdale provenance for these two arm-rings is the fact that they form a matched pair, which is a feature otherwise unparalleled in the hoard, at the same time as being in perfect condition, with no nicks (cf. two pairs of arm-rings in the British Museum, also without nicking (**8** and **11**), both from Ireland).

There was no other Cuerdale material in the Fairholt sale and nothing is on record concerning the source(s) of the rest of the Evans collection. It is clear, however, from the accurate drawings by Charles Roach Smith in his *Notebook* (93),[13] from 1842/43 (p. 33 and **Cat. Fig. 4**), that the complete arm-ring depicted by him is that ultimately acquired by Evans (**1:444**), registered in the Ashmolean as 1909.520. Its distinctive ornament (**Cat. Fig. 13**) further allows it to be identified with that which formed part of lot 172, consisting of four pieces of Cuerdale silver, in the sale of the Bateman collection (Sotheby's, 14–15 June 1893), where two of the items are described together as follows:

> A Silver Bracelet, formed of a band about three-quarters of an inch wide and gradually tapering towards points of juncture, where the two ends are formed into a twist or knot, the entire surface is decorated with a punched pattern of lozenge form, enclosing four pellets; and a small Silver Ring, the ends terminating in a double knot, *all found at Cuerdale* ...

The description of the small ring matches the finger-ring depicted by Roach Smith on the same page (93) as the arm-ring in question, but there was no such finger-ring in the Cuerdale collection donated by Arthur Evans to the Ashmolean in 1908. This is explained by the fact that it remained in his possession, as part of the finger-ring collection inherited from his father (Scarisbrick 1978, 19–20), until he donated it to the Ashmolean in 1930, ex-Bateman collection (**1:990**).

The weight of the Cuerdale finger-ring drawn by Roach Smith is given as '38 grs', which is the same as that published for the Ashmolean ring (Taylor and Scarisbrick 1978, 45, no. 239; their diameters are also identical (2.3cm). It is necessary to emphasise these exact correspondences in form and size because the latter is registered (AM: 1930.627) as being from 'Suffolk'– and is only here re-attributed to the Cuerdale hoard for the first time. Not surprisingly, 'Suffolk' was the provenance attributed to this ring when loaned by Evans, earlier that year, to the *Dark Ages Exhibition* (1930, 81, Case P, no. 4), but no such ring can be recognised amongst those known to have been found in Suffolk during the nineteenth century (cf. R.A. Smith, in *VCH: Suffolk*, I (1911), 349–50). The fact that the Evans finger-ring collection contains a number of Late Saxon/Viking-type rings from Suffolk (e.g. AM: 1930.629 and 632–3) may have given rise to some confusion; indeed, a second silver ring, ex-Bateman collection (1930.631), is registered with a 'Suffolk(?)' provenance (Taylor and Scarisbrick 1978, 45, no. 248), despite the fact that it was left unprovenanced by Evans in the catalogue of the *Dark Ages Exhibition* (1930, 82, Case P, no. 9).



Cat. Figure 5 'Mark' ingot (**1:8**), in the Evans collection (Ashmolean Museum); L 8.6cm

The first part of Bateman's (1893) Cuerdale lot 172, which was sold to the dealer Rollin, comprised:

> An Ingot of Silver, the lower surface with plain cross in relief, 3*in. long by* 1*in. wide;* and a small piece of a Bar of Silver, *combined weight* 8*oz.* 9*dwts., from Dymock's collection,* 1848;[14]

It is thus evident that the cross-marked 'mark' ingot (**Cat. Fig. 5**) in the Evans collection (AM: 1909.522) is also ex-Bateman (**1:8**), together with 'a small piece of a Bar'. The only clue as to the identification of the latter is provided by their combined weight of '8*oz.* 9*dwts*.'. The weight of the Evans 'mark' (256.8g) converts to 8oz 5dwts, and there is one fragment of plain 'bar' (arm-ring) in the collection (AM: 1909.531) that weighs '96 grains', or 4dwts exactly (**1:957**).

The thirty-five remaining items in the Evans collection (AM: 1909.522–51a–g) consist of nine other complete ingots and five fragments, together with an annular rod arm-ring and twenty-one miscellaneous pieces of hack-silver, of which one is now missing (**1:1,113**). This parcel thus represents a reasonable cross-section of the Cuerdale bullion and, as argued above (p. 34), it seems most probable that it originally constituted a Duchy allocation, for presentation to someone such as the Earl of Clarendon (p. 31). The fate of Clarendon's collection is unknown, but his death in 1870 could well have occasioned a private sale to someone such as Evans, and there is one piece of evidence to demonstrate that Evans had acquired this parcel by 1872 (see below). This suggestion receives some support from the fact that the Evans parcel does appear to have been privately purchased, because it cannot be related either to the sales of 'escapes' in Preston (as described above), or to the Hawkins collection which was auctioned in 1869 (p. 33 and note 75), being the only groups of Cuerdale objects known to have come onto the market during the period in question.

As noted above, this main part of the Evans collection contains only one complete personal ornament, in the form of a plain rod arm-ring with its ends twisted together (**1:841**), and it was this that he loaned to a special exhibition of *Ancient and Modern Jewellery and Personal Ornaments*, held at the South Kensington Museum, in 1872, when it was catalogued as 'Armlet, silver ends twisted together. Found at Cuerdale, Lancashire. Date about 910.' (Soden Smith 1873, 30, no. 109).

Although mentioned in the *Ashmolean Museum: Summary Guide* (1909), 46, the earliest publication of the Evans collection took the form of a plate in Thompson's *Inventory of British Coin Hoards* (1956), pl. xii,a, but it should be noted that the two ingots in the bottom left-hand corner of this photograph are in fact from the Croydon hoard (Brooks and Graham-Campbell 1986, fig. 6.1,1–2; 2000, fig. 16,1–2). It has not, however, previously been catalogued in print.

The finger-ring, with its 'Suffolk' provenance, formed part of both the *Dark Ages Exhibition* (1930, 81, Case P, no. 4) and the special exhibition of *Finger Rings from Ancient Egypt to the Present Day*, displayed in London and Oxford in 1978 (Taylor and Scarisbrick 1978, 45, no. 239). A selection of pieces was lent, in 1981–82, to *The Vikings in England* exhibition (Roesdahl *et al.* (eds) 1981, 76, E25) and, in 1990, the entirety (other than the still unrecognised finger-ring) formed part of the *Silver Saga* exhibition at Liverpool Museum (Philpott 1990, 66). The fifteen ingots and four other fragments have been analysed by X-ray fluorescence by Macalister (in Kruse and Tate 1992, 324–5).

(d) The Nelson collection (National Museums Liverpool: Liverpool World Museum): Reg. nos: 53.114.22–63, including 41A and 66 (Nelson collection: nos 1–44)

There are forty-four items of non-numismatic silver purporting to be from the Cuerdale hoard in the National Museums Liverpool (Liverpool World Museum: 53.114.22–63, together with nos 41A and 66), of which thirty-six almost certainly derive from the treasure, it being argued below that this group of material includes: four ethnographic arm-rings (Appendix 2, no. 7); two Viking-age rings which can be shown to have lost their original provenances (nos 4–5); one Merovingian arm-ring of unknown provenance (no. 6); and a fake 'mark' ingot (no. 1). Together these constitute the 'Cuerdale' collection assembled by Dr Philip Nelson, during the 1940s and early 1950s, which was purchased from his widow, in 1953, by the (then) City of Liverpool Museums, together with some relevant documentation. This was despite the fact that, a decade previously (when Nelson was aged seventy), he had written to Thomas Kendrick, on 14 October 1942, that 'in a few years they [his 'Cuerdale items] may rejoin their one time companions, as part of a bequest' to the British Museum.[15]

Nelson was a local Liverpool antiquarian and numismatist whose interest in the Cuerdale hoard 'seems first to have been aroused by the sale of Lord Grantley's Anglo-Saxon antiquities at Glendining's on 9 September 1942, which included several silver ingots and items of jewellery' (Warhurst 1982, xviii).[16] 'He subsequently made many efforts to secure all coins and ornaments with a Cuerdale provenance which were offered for sale' (*ibid.*, xviii), but he also endeavoured to locate private collections containing Cuerdale material in the hope that their owners might be willing to sell to him.[17] Although Nelson was interested in the provenances and pedigrees of his purchases, which were far from being confined to Cuerdale, he did not keep adequate records himself of where and when many of them were obtained, as noted by Warhurst (*ibid.*, xiv) in her discussion of his numismatic collection, which forms the basis of Liverpool Museum's holding of Cuerdale coins. It is hardly surprising, therefore, that it has not proved possible to establish the pedigrees of all the objects provenanced to Cuerdale in the Nelson collection. In fact, it is clear that several of the items purchased by him, as just noted, cannot have formed part of the hoard, given that they include rings with spurious Cuerdale provenances acquired at various times during the hundred years which had elapsed since the hoard's discovery.

The most convenient starting-point for a consideration of the Nelson collection is provided by his purchase in 1943, through Baldwin's, of lot 1206 at the G.C. Drabble sale (Glendining's, 14 December 1943). This consisted of 'a glazed mahogany case fitted for silver ingots, rings and portions of rods and armlets (9)', a smaller version of that illustrated in Philpott (1990, 35), together with twelve loose coins. The contents of this box are known from a full-size sketch sent to Nelson by Glendining before the sale, with the weights in grains recorded for all the pieces except the plain 'mark' ingot which forms its centrepiece (Nelson papers, no. 9). By a process of elimination, using both the sketch and the weights, it is possible to identify all these objects with certainty (Nelson collection: nos 27, 40, 41A, 43, 54–6 and 58), except for the 'mark' (which must be one of nos 46, 48 or 49). The label from the box also survives, stating:

> Silver:- Ingot, Ring and portions
> Of Rods & Armlets, from the
> Cuerdale Find 1840

This group of material is to be identified with lot 565 in the sale of the W. Shaw collection (Sotheby's, 23 July 1924), bought by Baldwin, when the nine pieces of silver were accompanied by 'a bound Volume of two Articles from the Numismatic Chronicle, 1841, describing the Cuerdale Find', making a 'lot' of ten items. The catalogue states that lot 565 (together with some Cuerdale coins which formed lots 555–64 and 566) had been 'Sold at this House, 2nd Feb., 1920'. This refers to the sale of Jonathan Richardson's Cuerdale material, as given to him by Assheton (pp. 167–8), when Baldwin purchased lot 171, consisting of eight pieces of silver and the 'bound volume', making a 'lot' of only nine items. This means that, whereas there is an impeccable Cuerdale pedigree for eight out of the nine pieces acquired by Nelson at the Drabble sale, the ninth piece must have been added by Shaw to his collection from an unknown source.

The extra item included in the Shaw sale is described as a 'silver Ring, *1 in. diam.*, plain, except for a group of six punctured dots at each end', so enabling it to be identified with no. 43 in the Nelson collection. This description also serves to identify it with a ring that formed part of lot 461 in the sale of the Robert Day collection (Sotheby's, 19–22 May 1931), catalogued as:

> A similar RING MONEY, of mixed silver; the hoop flattened on the upper and lower sides; on each end is engraved a pile of six dots; *Fork Hill (borders of Co. Armagh and Lowth)* 1887; *wt*. 189 *grs.*

The previous lot consisted of two 'RING MONIES', with circular hoops of which the ends 'are brought very closely together' (lot 460). This description of the form and ornament of Day's ring corresponds to Nelson's (no. 43) and the identification is confirmed by weight, for that in the Day sale converts to 12.25g which is exactly that of the one acquired by Nelson (ex-Shaw and Drabble). It is therefore beyond doubt that this particular ring of Nelson's did not derive from the Cuerdale hoard, as he was led to believe, but is of Irish provenance, being from Forkhill, Co. Armagh (Appendix 2.5).

Two further pieces of non-numismatic silver were included in the Richardson (1920) sale of Cuerdale material, catalogued together as lot 170, consisting of an ornamented finger-ring and a stamped arm-ring fragment, ending in a loop, described as 'a Portion of the Handle of a Vessel'. These two were to be reunited with the rest of the Richardson collection when purchased by Nelson (nos 28 and 24) at the Grantley sale in 1942 (lot 2), when they were listed as being from 'Ribchester'.[18] This Cuerdale to Ribchester change in find-place is readily explained by the fact that, when Lord Grantley lent both these items to the *Exhibition of Art in the Dark Ages in Europe*, held at Burlington House in 1930, they were provenanced to 'Cuerdale, near Ribchester, Lancashire, 1840' (*Catalogue*, 57, Case I, no. 3, and 83, Case P, no. 16). In any case, the arm-ring fragment (Nelson no. 24) joins a fragment that forms part of the Cuerdale material in the British Museum (MME: 1841,0711.234; see **1:427–8**).

Grantley also lent an elaborately stamped arm-ring to the *Dark Ages Exhibition*, likewise with a Cuerdale provenance (*Catalogue*, 57, Case I, no. 1). Its full description allows it to be identified with the largest Viking-age arm-ring in the Nelson collection (no. 23), stuck on the inside of which is a printed label from the 'National Exhibition of Works of Art. Leeds, 1868', with the name of 'Mr. Forman' written in as its 'Proprietor'. In the Leeds *Catalogue*,[19] this ring is unprovenanced; however, what can only be the same object was described in detail, by H. Syer Cuming, on the occasion when seventeen rings from Forman's collection were displayed to the British Archaeological Association in 1857, when it was 'affirmed to have been found near Oxford' (*Journal of the British Archaeological Association* xiii (1857), 340).

W.H. Forman collected during the mid-nineteenth century, mainly through making purchases at London sales, and his own collection was in turn disposed of around the turn of the century. This silver ring from 'near Oxford' was not, however, included in the Forman sale at Sotheby's in June 1899; also absent from this sale were four other 'ex-Forman' arm-rings now known to have been acquired by Nelson (as demonstrated below). On the other hand, this sale was devoted to *Egyptian, Greek & Roman Antiquities and Objects of Art of the Renaissance &c.*, whereas there was, in addition, a 'vast miscellaneous accumulation of other specimens which are not included in this catalogue' (p. iv), all of which were destined to be dispersed, although their fate is not known.

Forman's ring from 'near Oxford' is a remarkably fine specimen of an Hiberno-Scandinavian, broad-band, penannular arm-ring (Appendix 2.4) which makes it not surprising that it came to acquire a false 'Cuerdale' provenance, even though a modern overview of the hoard's contents would suggest that its large size, intact nature and excellent condition (with no nicks) render it an unlikely contender for such an origin. Its original Oxfordshire provenance is by no means improbable, even if somewhat unexpected for a complete ring of this type. On the other hand, it has been proposed that it might have formed part of the dispersed (1848) Viking-age coin-hoard, deposited *c.* 875 (Blackburn and Pagan 1986, no. 75), from Hook Norton, near Oxford (Biddle and Blair 1987, 193 and note 29), although there are arguments against this identification which have since led Graham-Campbell to its rejection (2001c, 116).

Lot 3 in the Grantley (1942) sale was also purchased by Nelson (as were lots 1 and 6, to be discussed below); this was catalogued as 'Anglo-Saxon Silver Armillae from the Cuerdale hoard, Lancs. (Forman Coll.)', consisting of two items. One of these was most probably the 'ex-Grantley' arm-ring from 'near

Oxford', just discussed (no. 23), given its Forman label, but it has not been possible to establish which the other ring might have been, given that there are four others in the Nelson collection (nos 22, 25, 30 and 31) that can now be recognised as having derived from the Forman collection, although nos 30–1 can be ruled out in this connection because they form a matched pair (to be discussed below).

The identification of Nelson's ring no. 22 (Appendix 2.7) with one known to have been in Forman's possession is based on Syer Cuming's description of the seventeen rings exhibited by Forman to the British Archaeological Association in 1857, as referred to above (*Journal of the British Archaeological Association* xiii (1857), 339–41). One of 'seven silver articles stated to have been discovered in Gaul' (*ibid.*, 339) is described as:

> A very large armilla, or, what appears to be far more probable, a torque (*torch*) formed of a twisted rod of silver, the ends held together by a hook and eye (*ibid.*, 340).

On the other hand, Nelson's three rings, nos 25, 30 and 31 (Appendix 2.7), were clearly included by Syer Cuming among a group of 'five specimens reported to have been found in Ireland' and were described by him, as follows (*ibid.*):

> They are examples of what are generally termed ring-money: that is, bracelets of a certain weight which were made to do duty for stamped coin. Two of the five specimens are alike, being formed of cylindric bars with conic terminations, the base of each cone spreading beyond the surface of the bar [= nos 30–1]. A third bracelet is a round bar gradually tapering from the middle to the end, and having little balls at the extremities. The bar is decorated with five groups of transverse lines [= no. 25].

The terminals and ornament of these penannular rings, which are in good condition (with no nicks), are without parallel among early medieval European arm-rings – and a native Irish provenance is no more likely for them than the Cuerdale hoard. Indeed, it will be suggested below that, together with ring no. 22, they represent a group of nineteenth-century material of Indian origin (Appendix 2.7).

However, to return to the problem presented by the identification of the contents of lot 3 in the Grantley sale (consisting of two 'armillae'), it may be proposed that the arm-ring additional to Nelson's no. 23 need not have been either of Forman's rings represented in the Nelson collection by nos 22 and 25, but Nelson's substantial Merovingian arm-ring of unknown pedigree (no. 26, see below). This suggestion is made, in part, on the basis of the high price paid by Nelson for the two rings which together formed lot 3 (twice that for the 'armlet' and 'ring' in lot 2), given that no. 26 is the most massive of the arm-rings in his collection. In addition, the penannular form of no. 26 (as also of the probable Indian ring no. 25) might be thought to equate better with the basic description of the two rings in lot 3 as being just 'Anglo-Saxon Silver Armillae', in contrast to no. 22 which is completely different in form, consisting of a twisted rod, closed with a hook (**App. Fig. 2.7,a**). There is also a case to be made, as below, for the latter ring having formed part of Grantley's lot 1, whereas it might also be thought likely that Forman's three penannular rings, with their earlier 'Irish' provenance, but probable Indian origins, would have been acquired together by Nelson, as a single 'lot', from an unknown source.

It is unfortunate that no pedigree can be established for Nelson's plain penannular arm-ring (no. 26) because there can be little doubt that its Cuerdale provenance is spurious. It is of a well-known Merovingian type, dating from the late fifth or the first half of the sixth century (Appendix 2.6). It would thus have been some 400 years old if deposited together with the rest of the Cuerdale treasure, yet it is complete and in perfect condition (with no nicks), which is highly improbable for what would have been by far the oldest ornament in what is essentially a hack-silver hoard. It most probably derives from a continental woman's grave and would have been an attractive acquisition, with or without its original provenance, for a nineteenth-century English collector with an interest in arm-rings, such as Forman.

Nelson submitted five photographs of his Cuerdale material for publication in the final part of *Viking Antiquities in Great Britain and Ireland* (Shetelig (ed.) 1954, figs 85–6). With the exception of three ingots, these illustrate everything in his collection, which had by then been purchased by the then City of Liverpool Museums, following his death in 1953. These photographs would thus appear to have been taken *c.* 1950 because the missing ingots can be identified with acquisitions made by Nelson in 1951 and 1952.

One of these three ingots had been in the possession of T.W. Armitage who wrote to Nelson, on 6 September 1952, that: 'I have Hawkins a/c of C. hoard & bought the sweepings which included:- a part of a cut ingot 803 grains Troy' (Nelson papers, no. 34). The source of Armitage's 'sweepings' is not known for certain, but may have been the Royal Collection, as suggested above (p. 29). Together with Nelson's collection are preserved several mounts and labels, one of which is a hand-written card, most probably of nineteenth-century date, stating:

> From the
> Cuerdale Hoard
> Cut Ingot AR. 803 grs.

This is to be identified, by weight, with Nelson's ingot fragment (no. 37), which is absent from the published photographs.

The other two ingots missing from Nelson's photographs consist of a plain 'mark' and a complete oblong ingot (no. 44); the 'mark' can, however, be identified as no. 45 because it alone amongst his four plain 'marks' has a pronounced casting-flaw on one edge (**1:2**), not visible on any of those illustrated (nos 46, 48 and 49). These two ingots (nos 44 and 45) are, in fact, linked together by virtue of the fact that both have their weights (in grains) painted on them in black, although now barely legible. They are further associated because they fit into prepared shapes in a paper-covered block of wood (in the Nelson collection), on which is written in a nineteenth-century hand:

> Cuerdale Hoard.
> A "Mark" of Silver, and an "Ingot",
> with another cut into 5 "Shillings",
> and 4 Cunhetti Pennies.
> Found in Lancashire, 1840.
> See Arch. Journal for 1847, 112

Five further spaces are hollowed from the block to house the ingot 'cut into 5 "Shillings"', although it is evident from their shapes that not all five pieces could, in fact, have been cut from a single ingot. One is in the form of a small disc (D *c.* 0.6cm), with well-documented parallels in the hoard (e.g. **1:176–80**), one is for the rounded terminal of a cut ingot (*c.* 1.2cm long by *c.* 1.0cm wide), and the other three are for sub-

rectangular ingot fragments, which had presumably been cut at both ends. These were, however, all missing by the time that Nelson acquired this particular 'lot'.

The two surviving mounted ingots (now **1:2** and **120**) were purchased by Baldwin (lot 1381), on commission from Nelson, at one of the sales of the collection of the late L.A. Lawrence, which took place at Glendining's, on 28 November 1951 (Grierson and Blackburn 1986, 406). Lot 1381 was catalogued as:

> AR Silver ingots (2), weights 8.2ozs. and 2.7ozs., and 'Cunetti' type Pennies (4) from the Cuerdale Hoard, 1840.

This description allows Lawrence's lot to be equated with the remains of the Duchy donation to the Rev. Tullie Cornthwaite, as noted above (p. 30 and note 62), for when offered for sale in *Spink's Numismatic Circular* (March–April 1920), no. 79661, there were just two ingots: 'One measuring 3.3 x 1.05 by .6 3955 gr Other 3.15 long 1294 gr'.

Further confirmation of the correct identification of Nelson's ingots (nos 44 and 45)[20] is confirmed by the weights given here – and it may also be noted that there are four hand-written labels, on scraps of paper, kept with his collection, one of which states 'Lawrence Coll:'.[21]

The painted weights on these two ingots are of special significance because they are present also on some of the Assheton collection and on the Cambridge ingots (pp. 175–6), both of which were official Duchy donations. One of the photographs of the Cuerdale material in the British Museum, published in 'Viking antiquities in England' (Bjørn and Shetelig 1940, fig. 11, bottom right), shows an object with its weight '1048' painted on in grains, although this has since been cleaned off (**1:1,017**). It seems evident therefore that all Cuerdale material, marked in this distinctive way, had been individually weighed before the official distribution commenced.

A further six ingots in the Nelson collection can also be identified as having formed an original Duchy donation, by virtue of another such painted weight. There is a nineteenth-century card, preserved amongst his Cuerdale material, with the following hand-written inscription:

> Ingots, found with Saxon Coins, in May 1840, at CUERDALE near PRESTON, about 40. yds. from the banks of the river – RIBBLE. – also silver armlets, and other ornaments --------

The six ingots in question had been mounted in a vertical row, with the top three stitched in place. The outline of the ingots still showing on the card, together with the *in situ* stitching, allow them to be identified by size as Nelson nos 63, 32, 59, 60 and 57; the traces of the painted weight survive on no. 60. It seems highly improbable that such a graduated group of ingots had been assembled from different sources during the nineteenth century, so that it is worth recalling (from Chapter 2) that the Duchy's untraced allocations include: the 'few pieces of the Silver' sent to W. Stevenson Fitch in August 1841; the 'Specimens of the Silver Bars– or Ingots' given to Lord Campbell on becoming Chancellor in July 1846.[22]

Nelson's remaining ingots, so far unaccounted for, include three 'marks' of which two are plain (from amongst nos 46, 48 and 49, given that one of these derived from the Richardson collection, as described above) and the third, which has a cross in relief (no. 47), is the lightweight forgery to be considered later (Appendix 2, no. 1). It is, however, probable that one of these plain 'marks' (**1:3**) is to be equated with that drawn by Charles Roach Smith, on p. 93 of his *Notebook*, from 1842/43 (**Cat. Fig. 4**).

Nelson's other unaccounted for ingots consist of two further complete specimens (nos 34 and 42) and five fragments (nos 33 and 50–53). A small fragment of a plain broad-band arm-ring (no. 36) may well have been considered as part of an ingot, as most recently by Lewis (1982, no. 4), but the stamped fragment (no. 35) could hardly have been so mistaken, although it would not necessarily have been recognised as part of an arm-ring. The other pieces remaining for consideration consist of: a complete finger-ring (no. 29); three rod fragments (nos 41, 61 and 62); and two fragments of twisted rods from neck-rings (nos 38 and 39).

As mentioned above, Nelson made two further purchases of Cuerdale material as a result of the Grantley (1942) sale, consisting of lots 1 and 6, in addition to both lots 2 and 3, which have already been accounted for. This particular sale (Glendining's, 9 September 1942), which included his 'Anglo-Saxon Antiquities' (lots 1–71), took place the year before the death of the 'eccentric' Lord Grantley (aged 87), after which eleven sales were required to dispose of his massive coin collection.[23]

Grantley's (1942) lot 6 combined a couple of Anglo-Saxon ornaments, from Suffolk, with an 'Anglo-Saxon silver ring and small ingot, found at Ribchester, Lancs'. The use of the alternative provenance of 'Ribchester' for Cuerdale in the Grantley sale catalogue has already been noted, so that one item in this particular lot may be identified with Nelson's finger-ring (no. 29), given that 'ring' is the term employed for the Cuerdale finger-ring in lot 2, whereas the catalogue uses either 'armlet' or 'armilla' for larger rings. Lot 6 accounts also for one of Nelson's 'small ingots', but there is no way of establishing which one it might be of those listed above.

Lot 1 in the Grantley sale escaped purchase by Nelson on the day of the auction, being sold to Baldwin for £5-10-0, as dealers acting on behalf of an anonymous client. Nelson subsequently wrote offering them £11, but Baldwin replied (on 2 October 1942) that, although their customer 'is not anxious to part, he would let you have the lot for £21' (Nelson papers, no. 5). Nelson duly paid up and was presumably gratified to be assured by Kendrick, in his letter dated 16 October 1942, that 'I do not consider the price you paid is excessive', given that the British Museum had 'put £15 on lot 1', although in the event he had needed 'to go slow at the beginning in order to keep my money for lot 32' (Nelson papers, no. 8; see also note 15, below).

Lot 1 consisted of 'Ingots of silver (5), armlet, and fragments found at Cuerdale'. So Nelson would have seemed to have had to pay a high price, given that lots 2 and 3 had cost him £2-15-0 and £5-10-0, respectively, unless the five ingots and 'armlet' were of some particular significance. If the 'Ingots of silver (5)' may all be considered to have been complete, then there are only the five complete ingots in the Nelson collection remaining to be accounted for, as listed above (supposing the Roach Smith 'mark' to have been amongst them). Given that these include three 'marks', this would account for the high price that he proved willing to pay for lot 1. It might further be suggested that, if the 'armlet' is to be equated with the ethnographic ring (no. 22), made from a twisted rod, then the

'fragments' could well be considered to have included the two pieces cut from twisted neck-rings (nos 38 and 39) and the spiral rod fragment (no. 41).

One suggestion that can be made concerning a possible pedigree for Nelson's stamped broad-band arm-ring fragment (no. 35) is that it might be equated with the 'Fragment of a silver Handle, engraved with early Saxon ornaments; *found at Cuerdale, very curious*', that formed part of lot 101 in the Lindsay sale (Sotheby's, 8 April 1868), by analogy with Richardson's stamped band arm-ring (Nelson no. 24) which was described, in the (1920) sale catalogue, as 'a portion of the Handle of a Vessel' (p. 172). The rest of Lindsay's lot 101 (bought by Jessop) consisted of 'Four portions of Silver Ingots', which might therefore account for four more of Nelson's eight other ingot/plain band fragments.[24] If so, when one has been deducted to form part of Grantley's lot 6, there would remain only three of his pieces unattributed and such could well have formed the remainder of Grantley's lot 1, given that it is not known how many 'fragments' were included in it. A simple explanation for the presence of two complete (non-'mark') ingots and three ingot fragments in Grantley's lot 1 is that he had, indeed, purchased from Baldwin the 'two silver ingots, probably Saxon' and the 'three sections from ingots' that had formed part of lot 204 in the sale of Kelso Museum's coins (Glendining's, 14 September 1933), as suggested above (p. 32).

There is, in fact, one piece of evidence to indicate that the stamped arm-ring fragment (no. 35) had, indeed, been associated at some earlier date with the plain arm-ring fragment (no. 36), which has in the past been mistaken for part of an ingot, for both have a circular spot of surface discoloration on the reverse (D 0.7cm) indicating that they had once both been marked in the same way. This makes it an even more attractive supposition that they had formerly belonged to Lindsay, for he must have acquired his 'Fragment of a Silver Handle' and 'portion' of an 'ingot' from a source other than the Duchy, by whom he had been allocated only three ingots (p. 32). There is no information, however, concerning any intermediate pedigree for Lindsay's parcel, if indeed it has been correctly identified here with the material acquired by Nelson.[25]

It is the lack of illustration of any of these Cuerdale objects, before the publication of Nelson's own photographs, from *c.* 1950, that has hampered this discussion. On the other hand, although it has involved a deal of speculation, the above version of the various demonstrable and hypothetical pedigrees of Nelson's Cuerdale material has the merit of accounting for every piece in his collection that may be considered to be genuine.

A selection of twenty-two pieces from the Nelson collection (although including four of the items dismissed here), together with some of his coins, was illustrated in the catalogue of *The Vikings in England* exhibition (Roesdahl *et al.* (eds) 1981, 76, E25), but the four were weeded out of the group photograph published on the occasion of the *Silver Saga* exhibition in Liverpool (Philpott 1990, 38, colour; reproduced in Graham-Campbell 1992b, fig. 1.11; see also Philpott 1990, 35, 39 and 66, for further illustrations of Nelson material).

Details of a total of twenty-seven pieces in the Nelson collection (mostly ingots) were published by Lewis in 1982,[26] but these have since been further studied by Kruse who subsequently undertook silver analyses of the twenty-four ingots, together with four other fragments (Kruse and Tate 1992, 304–15, 320). One unexpected result of this work was the discovery that the lightweight 'mark' ingot (no. 47) 'contains no silver, but instead is of tin' (*ibid.*, 314) and is thus a forgery (Appendix 2.1); it is relevant to note here that this ingot is without certain pedigree, seemingly having emerged into the records only with the Grantley (1942) sale, if the arguments advanced above are considered to be convincing. In this context, it should be noted that Dolley and Blunt observed, in connection with their study of Alfred's coins (1961, 93, note 17), that:

> Extremely dangerous cast forgeries of a number of the Cuerdale rarities plagued nineteenth-century Sales and still occasionally are submitted to the British Museum.[27]

(e) Other museums and private collections (ingots) Fitzwilliam Museum, Cambridge (10); Museum of Scotland, Edinburgh (3); University Museum of Archaeology and Anthropology, Cambridge (2); Society of Antiquaries of London (1); Alnwick Castle Museum (1); Blunt collection (1); and McCoy collection (1)

The only silver objects from, or purporting to be from, the Cuerdale hoard that are known to exist outside the above four collections (a–d) consist of twenty ingots. Three of these are poorly provenanced, but (as discussed below) only one has in fact been rejected from this catalogue (Appendix 2.2).

The 'mark' ingot (**1:9**), given to Christopher Blunt by Lord Clitheroe (ex-Assheton collection), and the cut ingot terminal (**1:273**), donated by Sir John Evans to the Society of Antiquaries of London (date unknown), have both already been mentioned. The pedigree of the latter is unrecorded (*Catalogue of Miscellaneous Collections in the Society of Antiquaries*, no. 885), although it should be noted that its weight (716 grains) is painted in black on one side, in the manner described above as being characteristic of several of the official Duchy allocations. It was also suggested above that this ingot fragment might have formed part of the substantial Cuerdale parcel acquired by Evans from an unknown source (and now in the Ashmolean), but it is worth noting that there were at least three London sales during the second half of the nineteenth century at which a single Cuerdale ingot was available for purchase:[28] that of the 'late Mr. E. Litchfield, of Cambridge' (Sotheby's, 7 March 1865), in which lot 36 consisted of 'An Ingot of Silver from the Cuerdale find' (bought by Solomons); that of the P.B. Purnell collection (Sotheby's, May 1872), in which the first item in lot 1294 consisted of 'A silver Ingot, *found with Saxon coins at Cuerdale*' (bought by Johnston); and that of the late Rev. Thomas Hugo (Sotheby's, 2 August 1877), in which lot 106 comprised: 'Twenty-five Cunnetti … and a portion of a silver ingot' (bought by Rollin).

The largest group of ingots for consideration in this section is the parcel of twelve allocated by the Duchy, on 29 June 1844, to 'the Antiquarian Society in the University of Cambridge' (p. 32). These were duly placed on loan in the University Museum of Archaeology and Anthropology, where two remain (1939.43), whereas the other ten have been transferred to the Department of Coins and Medals at the Fitzwilliam Museum (708,1–10). The Fitzwilliam's ingots consist of three complete specimens and seven fragments (**1:131–3**, **269–71** and **357–60**),

of which three have painted weights, as do the two in the Museum of Archaeology, both of which are complete (**I:134–5**).

A parcel of three Cuerdale ingots (Museum of Scotland: IM 24–6) was donated to the Society of Antiquaries of Scotland, on 10 April 1871, by their Fellow, Andrew Wilson, who was an Edinburgh solicitor (*Proceedings of the Society of Antiquaries of Scotland* ix (1870–72), 179). These three ingots (**I:136**, **272** and **361; Pl. 11**) are all different, in that one is complete, one a terminal fragment, and the other cut at both ends, which is once again suggestive of a Duchy selection, although their earlier pedigree is unknown. However, as suggested above (p. 33), it may well be that they originally formed one of the groups of three ingots sent to collectors in Ireland, in 1845–46, given that such are the only official donations of this size recorded in the Duchy's archive. All three Edinburgh ingots have been analysed (Kruse and Tate 1992, 320).

None of the above ingots has previously been fully published, although they are referred to in Lewis (1982) and are described in Kruse's thesis (1988a). They were all loaned to the Liverpool Museum for the *Silver Saga* exhibition in 1990 (Philpott 1990, 66).

The three silver ingots remaining for discussion, which have variously been provenanced to the Cuerdale hoard, are to be received with differing degrees of confidence. The Ulster Museum, Belfast, possesses a cylindrical ingot purchased at Christie's, on 4 October 1977 (lot 71), having previously been in the possession of the Yorkshire dealer, R.T. Clough (Lewis 1982, 49). Attached to it was a label stating:

> SILVER INGOT
> From the Cuerdale Hoard, 1840
> 25 grams

On the other side is written: 'The Gift to me of Mr. G.F. Lawrence of the London Museum, who purchased it from a private collection. 1934.' Nothing more has been discovered concerning the pedigree of this piece and given that, in both form and appearance (including its lack of nicking), it is completely unlike any well-documented object from the Cuerdale hoard, it has been thought best to relegate it to the Appendix: 'Fakes and false provenances' (Appendix 2.2).

On the other hand, an ovoid ingot with a Cuerdale provenance, purchased 'in Cornwall many years ago', by a Mr H. Pegg of Beeston, Nottingham, and subsequently acquired by Vasco McCoy Jr, of Texas, at *Spink Coin Auctions* (no. 11 (1980), lot 15), seems an acceptable addition to the main catalogue (**I:196**), even though nothing is known of its earlier pedigree.

Finally, there is a small ovoid ingot of standard type, with a classic edge-nick, in the possession of the Duke of Northumberland, at Alnwick Castle Museum (**I:137**). This was seemingly unprovenanced when acquired in the nineteenth century, for when first published in 1880, in Bruce's *Descriptive Catalogue* (94, no. 533), it was simply compared to those 'found at Cuerdale, with Saxon coins'. On the other hand, there are three further pieces of Viking silver at Alnwick, representing two finds from Ireland (*ibid*., nos 528.1–2 and 534),[29] which were acquired together with the other Irish antiquities that formed part of the 'museum' collected by Roger Chambers Walker; this was purchased for the fourth Duke, by Albert Way, in 1851 (*ibid*., ix).[30]

Way was by then under commission:

> by the Duke to watch the sale of objects of antiquarian interest in London, or elsewhere, and to purchase such as were of real value, especially those that might be useful for the purpose of comparison with the articles already in the Museum. (*ibid*., viii)

He went on to arrange 'the articles in the Museum', attaching 'labels to most of them, giving the name of each object, and the place, as far as it could be ascertained, where it was found' (Bruce 1880, ix). However, 'the death of his friend, Algernon, the fourth Duke [in 1865], was a severe blow to him, and he could never afterwards summon up courage to revisit the Museum' (*ibid*., ix–x). It was thus only after Way's death, in 1874, that the Rev Dr J. Collingwood Bruce brought to completion (in 1880) what was originally to have been Way's own catalogue of the contents of Alnwick Castle Museum.

It seems clear therefore that this silver ingot did not enter the Museum as part of the Walker collection, for then Way would have been well aware of its having an Irish provenance. On the other hand, it remains most probable that it was also acquired during the mid-nineteenth century, presumably by Way himself who would most likely have purchased it from an English collector (as, for example, was the case with the Duke's Viking oval brooch from near Bedale, Yorks, and his fine Romanesque buckle from Lincoln).[31]

The Alnwick ingot is unlikely to have been a single-find, for none such is on record from either England or Scotland until after the introduction of metal-detecting in the late twentieth century. Given the size of the Cuerdale hoard and the manner of its dispersal, the overwhelming likelihood is that an unprovenanced ingot acquired by an English collector in the 1840s or 1850s will have derived from this find. This ingot is therefore accepted here (**I:137**), following Kruse (1988a, 243), as being from Cuerdale, if inevitably with some degree of reservation.

(f) Lost recorded objects

In addition to the six small pieces of the Cuerdale hoard now missing from the British Museum (p. 165), there are five objects known to have been lost of which there are extant nineteenth-century illustrations. It has thus also been possible to catalogue them here. On the other hand, the five ingot pieces missing from the 'block' purchased by Nelson at the Lawrence sale (see above, pp. 173–4) have not been included for lack of sufficient information.

The drawings made by Samuel Hibbert of eight Cuerdale objects, on 26 May 1840 (p. 24; **Fig. 2.3**), include a lost plain finger-ring (**I:986**), although the remaining pieces all still form part of the Assheton collection.

The drawings of Cuerdale objects by Charles Roach Smith, in his *Notebook* from 1842/3, preserved in the British Museum, have been referred to above in connection with the Evans collection (see note 13, below); this contains both the decorated arm-ring (**I:444**), and the plain finger-ring (**I:990**), that are now in the Ashmolean. On the other hand, the plain 'mark' illustrated on the same page was somehow separated from them (p. 93; **Cat. Fig. 4**). Apart from the plain 'mark' ingot that formed part of the original Duchy allocation to the British Museum (**I:1**), the only extant plain 'marks' are the four now in the Nelson collection (**I:2–5**). Given that only two of Nelson's have known pedigrees, it is quite possible that the illustrated example could be represented by one of the other two. The

weight of the Roach Smith ingot is noted as being '8.6-6', which converts to 258.55g; this places it at the heavy end of the extant plain 'marks' and therefore so close to that catalogued here as **1:3**, weighing 258.77g, that it has not been thought advisable to include it as a lost 'mark' (given that all the other plain 'marks' weigh less than 258g).

On the following page (p. 95), Roach Smith sketched three oblong ingots, with two versions of the uppermost one (**Pl. 10**). They are all complete and are presumably represented full-size, as are the three other objects (on p. 93), so that their lengths may thus be estimated; their weights can also be calculated from the information provided by Roach Smith (in terms of fractions of the 'mark', etc.). In consequence, these ingots may be directly compared with all the extant examples, with the result that it can seen that there is no such group of three in any of the collections to match those drawn by Roach Smith. They have therefore been catalogued here as missing (**1:138–40**), although the central ingot (**1:139**) is sufficiently close to one in the British Museum (**1:16**) as to suggest that it might well have been a mould duplicate (cf. Kruse 1988a, 242).

Roach Smith recorded in his *Notebook* both material that came into his possession and objects that were simply shown to him. There is no indication as to which was the case in this instance, except for the fact that, in 1862, he wrote to Joseph Mayer, the Liverpool collector, offering him a selection of coins and part of the Cuerdale hoard (Liverpool Museum: Acc. No. 38.48, 'Papers relating to Charles Roach Smith and Joseph Mayer'). The outcome of this offer is unrecorded, but Mayer was not interested in coins and, in any case, much of his large collection was not well documented; in fact, it has been described as 'trembling on the verge of chaos' (M. Gibson, in Gibson and Wright (eds) 1988, 43).

The Cuerdale parcel depicted, as a whole, by Charles Roach Smith presumably represents an unrecorded, or at least unrecognised, Duchy allocation, but the mystery remains as to how the arm-ring and finger-ring entered the Bateman collection (to become part of the Evans collection), and how the 'mark' could have ended up in the Nelson collection (ex-Grantley?), whereas the group of three oblong ingots has simply disappeared.

The final piece of silver for inclusion here is the complete, if bent, arm-ring (**Pl. 40**) exhibited by the Rev. Thomas Hugo to the British Archaeological Association in 1852 (Hugo 1853, pl. 37, fig. 3; Graham-Campbell 1987a, 330, fig. 1,3), but which was not included in his sale (p. 25 and note 18).[32] Given that it cannot be recognised amongst the extant material from the Cuerdale hoard, it has been catalogued here as another lost, but recorded, object (**1:885**).

(g) Four bone pins (1:1,142–5) and one bone needle (1:1,146) MME: 1954,0202.1 and 2 (two pins); Swarbrick collection (two pins); and Harris Museum, Preston (needle)

Four bone pins and a bone needle (**Fig. 6.22**), together with the remains of a nineteenth-century label associating them with the Cuerdale hoard, were kept at Leagram Hall in Lancs until 1940, when they were passed to Joseph Charnley, of Preston, who had developed a particular interest in the treasure. Charnley wrote to the Museum about them on 27 January 1941, and again on 6 February when he provided a group photograph, which was subsequently published by Thomas Kendrick (1941). He stuck the label into his Cuerdale scrapbook (see p. 35, note 9), now in the Harris Museum, Preston, which also possesses the bone needle, received by them after Charnley's death in 1960. The label reads:

> Bone pins and Needles
> Found in 1840 in the bank of the Ribble
> at Cuerdale, with Saxon and foreign treasure
> consisting of nearly 5,000 coins of Alfred …
> [Ed]wa[rd th]e [Elde]r, Lu[dovicus … C]harles the
> ….

Charnley's own caption to this label reads (in part):

> Remains of the Original Label of the 4 Bone Pins and 1 Bone needle found in the Danish Army Chest at Cuerdale, 1840. These pins and needles found their way to Leagram Hall, where they had been housed for nearly a century. They were given to me by J. Berkley-Weld Esq. shortly after he left the Hall in the autumn of 1940 …[33]

In a letter to Philip Nelson, of Liverpool, dated 8 March 1952 (Nelson papers, no. 11; for which see note 17, below), Charnley stated that:

> I had four bone pins and a bone needle taken from the old chest which were probably used to fasten the parcels in which the various silver objects were contained. I parted with three of these to a friend some time ago.

Herein lies 'a minor mystery', as noted by Ben Edwards in his republication of the pins as being of Roman manufacture (1984, 372, note 21), because the two pins still in private possession (Swarbrick collection) are contained in a small cigar box, wired for three items, with a pencil note on the lid explaining that two were sent to the British Museum in 1954, whereas one (the needle) was retained by Charnley. According to Edwards (*ibid.*):

> 'Shadows' on the base-board of the box make it clear that it originally contained nos. 3 and 4 plus the needle. It now contains nos. 1 and 4, no. 3 being one of the two at the British Museum.

The two pins now in the Museum (nos 2 and 3, using Edwards' numbering from his fig. 1; cf. **Fig. 6.22**) are registered as MME: 1954,0201.1 and 2, having been 'given by J. Berkeley-Weld Esq' who must have reclaimed one pin each from Charnley and his friend for the purpose of making this donation.

Although the contemporary sources relating to the discovery of the Cuerdale hoard, quoted in Chapter 2, make no mention of these bone pins, 'the likelihood of their having derived from the hoard is increased by the apparent non-local origin of some at least of them' (Graham-Campbell 1987a, 341), as discussed above (p. 129).

Notes

1 *Memoirs illustrative of the History and Antiquities of the County and City of York, communicated to the Annual Meeting of the Archaeological Institute of Great Britain and Ireland, held at York, July, 1846, …* (1848), 14, note 'm'.

2 For Worsaae's visit to London in 1846, and reactions to the Cuerdale hoard, see now Rowley-Conwy 2007, 108–13, especially pp. 110–11.

3 According to Edwards (1996, 13), the career of 'John Garstang, later to become Professor of Egyptology at Liverpool University' was determined by excavation of the Roman site at Ribchester, Lancs, whilst still an undergraduate 'reading mathematics at Oxford'.

4 Liverpool Museum possesses Nelson's papers relating to his collection of Cuerdale material (N/B1. Saxon and Viking

Antiquities: Group I), in which Kendrick's letter (dated 16 October 1942) is no. 8.

5 Courtesy of Howard E. Manville of Washington, DC, and Terence J. Robertson of London, who made a draft copy of their invaluable index of *British Numismatic Auction Catalogues: 1710–1984* available to Christopher Blunt, from which the Burton catalogues were identified; the only known copies are preserved in the USA, but are unfortunately incomplete (for those referred to here, see now Manville and Robertson 1986, 90, no. 5, 99, no. 30, and 106, no. 14).

6 Dr Alexander Moore is to be identified with the 'Andrew Moore' of Blunt's paper (1983, 3).

7 This is the unique Ceolwulf by Dudecil, which Kenyon must have disposed of before his death (see note 8, below); it was eventually acquired by Christopher Blunt and is now in the Fitzwilliam Museum.

8 In correspondence (5 November 1985), Christopher Blunt wrote to me that: 'From a numismatic point of view [the coins in] K's [sale] are interesting in showing that only one of the great rarities that we know (mostly from Haigh) he once had, remained in his possession when he died (lot 677). So it's pretty clear that he was, as we surmized, a Marchand amateur. But what a lot of others [70+] he still had! He must have helped himself liberally.'

9 Information from Christopher Blunt.

10 *Op. cit.* in note 1, above; Assheton's arm-ring is illustrated on p. 40 (pl. vi, fig. 1).

11 There were only four collectors who were allocated thirty coins each by the Duchy in 1841: John Field of the Royal Mint (whose coins were, however, sold at Sotheby's on 15 September 1848); F. Hobler; W. Stevenson Fitch; and H.W. Chandler.

12 According to Michael Metcalf (pers. comm.): 'The only Evans coin we have that is (no doubt) ex Cuerdale is Sylloge 283, an ORSNAFORDA– acquired or retained for obvious reasons'.

13 This *Notebook* (preserved in the Department of Prehistory and Europe) was started by Roach Smith in 1842. The Cuerdale drawings, which are only identified as such in the index, are on pp. 93 and 95 (p. 94 is blank); a list of gold coins from Kent on the following page (p. 96) is dated 'July 19th. 1843'.

14 The Rev. Thomas Dymock had received twenty-eight Cuerdale coins as part of the initial Duchy distribution (June 1841); these two ingots formed lot 482 in the sale following his death (Sotheby's, 1–4 June 1858), when they were bought by the coin dealer, William Webster.

15 In reply, Kendrick wrote (on 16 October 1842), in the letter quoted from above (p. 174), that 'it is … extremely generous of you to say that you may leave them to us so that they may rejoin their brothers and sisters'; in the event, Nelson's will left everything to his third wife (Warhurst 1982, xviii).

16 For a biographical sketch of Nelson, see Warhurst 1982, xi–xiii.

17 The Nelson papers include (no. 11) a reply from J.R. Charnley of Preston, dated 8 March 1952, in answer to a letter from Nelson 'in to-day's "Preston Guardian", re the Cuerdale Hoard', giving him information on coins known to him to be in local collections, as well as on the bone needle and four pins documented in Section (g).

18 The Nelson papers include (no. 1) his receipt from Glendining for his purchase of lot 2 at the Grantley sale.

19 *National Exhibition of Works of Art at Leeds, 1868*, 172, no. 16; the *Official Catalogue*, in its final form, was published the following year with Forman's ring (1869, 182, no. 16) described by W. Chaffers as: 'Saxon Silver Armilla, flat, with open ends, rudely stamped with crosses and crenellated ornaments'.

20 Lewis (1982, 49) identified Nelson's 'mark' no. 48 as being ex-Lawrence collection, but it is evident that it must have been no. 45 for the reasons given here.

21 Two of the other three labels state 'Grantley Coll:' and thus present no complications, but the fourth label, which reads 'Baldwin Coll:', is more problematic because it is presumably not to be associated with material that simply passed through the hands of Baldwin, the dealers, when acting for Nelson. However, F. Baldwin did have his own personal collection (information from Christopher Blunt), and it is possible that this refers to the Richardson parcel purchased by Baldwin at the Shaw (1924) sale (see p. 172); for other possibilities, see note 25 (below).

22 Some pedigree may yet be established for this parcel should it prove possible to determine the significance of the numbers '77/9' written, in blue pencil, on the top right-hand corner of the card; this presumably relates in some way to another such inscription '60/3', also in blue pencil, on a loose tag in the Nelson collection.

23 Allowing for the fact that lot 71 was: 'An ancient Chinese gong'! For a summary of Lord Grantley's colourful life and his collecting career, which spanned five decades, see Grierson and Blackburn 1986, 396–7.

24 Nelson nos 33, 36, 50–53, 61 and 62; it should be noted that no. 51 (**1:354**) has its weight painted on in black (for the significance of which, see p. 174).

25 There is, however, the possibility that this is where the label for the unknown 'Baldwin Coll:' might come in (see note 21, above), but such could alternatively have been the source of the six card-mounted ingots or of the three ethnographic arm-rings. Another mysterious label consists of a paper disc with the printed number '187', beneath which is written in pencil 'A Lot'.

26 Lewis (1982) is a revised version of her dissertation on 'Silver ingots from the Cuerdale hoard of Viking silver in two northern collections', submitted for the Certificate of Practical Archaeology at the University of Liverpool (1977). Her total of twenty-seven ingots and ingot fragments in the Nelson collection was arrived at by including four ornament fragments (nos 36, 41A, 61 and 62), whilst omitting the hammered ingot (no. 34) and one ingot fragment (no. 52). There are thus twenty-four ingots and ingot fragments present in the Nelson collection according to the classification used here (as also Kruse and Tate 1992, 320).

27 For 19th-century forgeries of Anglo-Saxon coins, see: Lawrence 1905–06; Blunt and Thompson 1957; Dolley 1957; and Pagan 1971.

28 Discounting, in this connection, the ingot that was sold at Sotheby's, on 12 July 1860 (lot 360), from the collection of 'an Amateur', because of its weight (see p. 37, note 65).

29 A fourth piece of supposedly Viking silver from Ireland, in Alnwick Castle Museum (Bruce 1880, no. 535), is of ethnographic origin (information from John Sheehan).

30 The Alnwick Castle Archive contains copies of two letters from Albert Way, addressed to the Duke (on 29 March and 3 April 1851), concerning his purchase of the Walker collection for £300. The first letter enclosed 'the detailed Inventory of Mr Walker's Irish Antiquities', which is no longer to be found, but the second lists fifty-three further objects (not including any silver), which were added by Walker as a 'Luck Penny'. When (in 1856) the Duke exhibited in Edinburgh 'An extensive series of Irish Antiquities, chiefly found in the county Sligo, and collected by Mr. R. Chambers Walker', the catalogue entry (Way (ed.) 1859, 49–50) includes mention of 'a pair of silver armlets, highly ornamented with punched work, in the same manner as the silver fragments found in Cuerdale with Saxon coins' (= Bruce 1880, no. 528.1–2, pl. xxiii,4).

31 In 1848, this oval brooch (Bruce 1880, no. 284, fig.) was in the possession of William Hedley of Monkwearmouth (*Archaeological Journal* v (1848), 220–1, fig.), but by the time that it was exhibited in Edinburgh, in 1856, it had become the Duke of Northumberland's property (Way (ed.) 1859, 39); the fine buckle (Bruce 1880, no. 592) was exhibited by Edward Willson of Lincoln, in 1848 (*Lincoln Museum Catalogue*, fig.), from whom Way purchased for the Duke 'a considerable number of articles of the Roman and Medieval periods' (Bruce 1880, viii–ix).

32 Hugo presented a small collection of antiquities 'amassed from different sources' to Evans, including the socketed bronze axe discussed and illustrated by him (1853, pl. 37), together with the Cuerdale arm-ring (**1:885**; **Pl. 40**), but the latter was not amongst the material that subsequently entered the Ashmolean (the axe is: 1927.2638).

33 According to Charnley's letter to Kendrick (dated 6 February 1941): 'These pins are destined for the Stonyhurst College Museum inspite of the fact that their proper resting place is the B.M. But it was their present owner's family which gave Stonyhurst with all its land to the Jesuits'; however, a couple of weeks later, when he was writing again to Kendrick (18 February), he expressed the hope that he might 'yet be able to persuade B[erkley]-W[eld] to change his mind'.

Classification of the Non-numismatic Silver in the Cuerdale Hoard (1:1–1,153), with associated Bone Pins and Needle (1:1,154–8), and Lead Fragments (1:1,159)

Ingots (1:1–363)
1. *Trapezoidal 'marks'* (**1:1–11**)
2. *Oblong* (**1:12–140**)
3. *Ovoid/circular* (**1:141–96**)
4. *Oblong, cut at one end* (**1:197–273**)
5. *Oblong, cut at both ends* (**1:274–361**)
6. *Ovoid/circular, cut* (**1:362–3**)

Casting waste (1:364–9)

Sheet scrap (1:370–3)

Rings (1:374–994 and 1,062); see also Addenda fragments (1:1,125–53)
1. *Spiral-ring fragments* (**1:374–412**)
(a) Permian ring terminals (**1:374–5**)
(b) Striated rod fragments (**1:376–405**)
(c) Stamped rod fragment (**1:406**)
(d) Striated rod fragments, part made (**1:407–12**)
2. *Band arm-ring and fragments, with Scandinavian and related ornament* (**1:413–42**)
(a) Cast and sheet band arm-ring fragments, with Sub-group (i) ornament (**1:413–16**)
(b) Cast and sheet band arm-ring fragments, with Sub-group (ii) ornament (**1:417–25**)
(c) Narrow band annular arm-ring and fragments, with Sub-group (iii) ornament (**1:426–41**)
(d) Band arm-ring fragment, with Sub-group (iv), 'Hiberno-Scandinavian style', ornament (**1:442**)
3. *'Broad-band' arm-rings and fragments, with 'Hiberno-Scandinavian' ornament* (**1:443–569**)
4. *Plain band arm-rings and fragments* (**1:570–663**)
5. *'Bullion-rings' and fragments* (**1:664–82**)
6. *Twisted-rod neck-rings and fragments* (**1:683–95**)
7. *Plaited- and twisted-rod arm-rings, with paired fragments* (**1:696–721**)
8. *Twisted-rod single fragments* (**1:722–835**)
9. *Rod arm-rings (circular section) and terminal fragments* (**1:836–53**)
10. *Rod arm-ring fragments (circular section)* (**1:854–82**)
11. *Rod arm-rings (lozenge section) and terminal fragments* (**1:883–99**)
12. *Rod arm-ring fragments (lozenge section)* (**1:900–58**)
13. *Rod arm-ring and fragments (polygonal section)* (**1:959–72** and **1,062**)
14. *Rod (coiled) arm-ring fragments (oval/D-shaped section)* (**1:973–7**)
15. *Finger-rings* (**1:978–94** and **837**)
(a) Band (**1:978–86** and **837**)
(b) Rod: single (**1:987–93**)
(c) Rods: twisted (**1:994**)

Brooches and pins (1:995–1,061 and 1,062)
1. *Irish brooch tradition* (**1:995–1,052** and **1,062**):
(a) Ball-type (including 'thistle-') brooch fragments (**1:995–1,001** and **1,062**)
(b) Bossed penannular brooch terminal fragments (**1:1,002–15**)
(c) Other penannular brooch fragments (**1:1,016–18**)
(d) Pseudo-penannular brooch fragments (**1:1,019–20**)
(e) Pin-heads and brooch-pin fragments (**1:1,021–33**)
(f) Bosses and rivet (detached) (**1:1,034–7**)
(g) Hoop and terminal fragments (**1:1,038–52**)
2. *Scandinavian/Baltic brooch tradition*: knobbed penannular brooch fragment (**1:1,053**)
3. *Anglo-Saxon brooch tradition*: disc brooch fragments (**1:1,054–5**)
4. *Frankish brooch tradition*: equal-armed brooch fragments, with filigree decoration (**1:1,056–7**)
5. *Trefoil-headed pin fragments* (**1:1,058–61**)

Buckle (1:1,062)

Beads and suspension/attachment rings (1:1,063–82)
1. *Bead and fragments* (**1:1,063–7**)
2. *Suspension/attachment rings* (**1:1,068–82**)

Chains and wires (1:1,083–99)
1. *Chain fragments* (**1:1,083–9**)
2. *Wires* (**1:1,090–9**)

Filigree and beaded/twisted wire fragments (1:1,100–13)

Pendants (1:1,114–17)

Miscellaneous non-Viking silver (1:1,118–21)
1. *Anglo-Saxon strap-end and mount* (**1:1,118–19**)
2. *Pictish decorated strip and comb fragment* (**1:1,120–1**)

Miscellaneous silver (1:1,122–4)

Addenda (1:1,125–53)

Bone pins and needle (1:1,154–8)

Lead fragments (1:1,159)

1 Cuerdale, near Preston, Lancs (1:1–1,153 & 1,154–9)

Ingots (1:1–363)

1. Trapezoidal ('mark') ingots (1:1–11)

The 'mark' ingots are illustrated together on **Pls 1–2** (see also **Fig. 4.6** and **Cat. Figs 4–6**).

1:1 Silver 'mark' ingot (MME: 1841,0711.2)

Trapezoidal in plan and section, as **1:2–11**; plain, with a small area slightly hammered at one end on top.

Nicks: 0. L 8.48; W 2.73; H 1.5cm. Wt 256.01g (drilled).

XRF-analysis: BMRL (File 5935), by Janet Lang (1991)
Ag: 94%; Cu: 5.1%; Pb: 0.6%; Au: 0.5%

Duchy donation to the British Museum (1841); Anon. 1896, 657 (pl.); Lewis 1982, 65; Kruse 1988a.

1:2 Silver 'mark' ingot (LM: 53.114.45)

As 1:1; plain, but with a casting flaw across the top angle of the shorter main edge, with pitted surface. There are the remains of its painted 'Duchy' weight on the reverse.

Nicks: 0. L 8.57; W 2.74; H 1.5cm. Wt 256.39g.

XRF-analysis (Kruse and Tate 1992): see **Cat. Table 1**.

Nelson collection: ex-Lawrence (Glendining's, 28 November 1951, lot 1381); ex-Cornthwaite (*Spink's Numismatic Circular* (March–April 1920), no. 79661); Lewis 1982, no. 86, fig. 8,4; Kruse 1988a; Kruse and Tate 1992, 304–15, 320.

1:3 Silver 'mark' ingot (LM: 53.114.46)

As 1:1; plain.

Nicks: 0. L 8.5; W 2.75; H 1.5cm. Wt 258.77g.

XRF-analysis (Kruse and Tate 1992): see **Cat. Table 1**.

Nelson collection: one of Nelson's three plain 'marks' (**1:3–5**) from the collections of Drabble (Glendining's, 14 December 1943, lot 1206), Shaw (Sotheby's, 23 July 1924, lot 565), and Richardson (Sotheby's, 2 February 1920, lot 171), but which is which cannot now be established, except that it is suggested above (p. 174) that this particular example may be that (otherwise lost) which was sketched by Charles Roach Smith (**Cat. Fig. 4**), in his *Notebook* (1842/3), 93, in which case **1:3** cannot be the ex-Richardson 'mark' because his was a gift from Assheton and was not sold until 1920. See also: Shetelig (ed.) 1954, fig. 85 *or* 86; Lewis 1982, no. 84, fig. 8,2; Kruse 1988a; Philpott 1990, 38 and 39 (pls); Kruse and Tate 1992, 304–15, 320.

1:4 Silver 'mark' ingot (LM: 53.114.48)

As **1:1**; plain.

Nicks: 0. L 8.45; W 2.77; H 1.5cm. Wt 254.85g.

XRF-analysis (Kruse and Tate 1992): see **Cat. Table 1**.

Nelson collection (see **1:3**); Shetelig (ed.) 1954, fig. 85 *or* 86; Lewis 1982, no. 85, fig. 8,3; Kruse 1988a; Philpott 1990, 38 and 39 (pls); Kruse and Tate 1992, 304–15, 320.

1:5 Silver 'mark' ingot (LM: 53.114.49)

As **1:1**; plain, but with white concretions along one edge and on part of the reverse.

Nicks: 0. L 8.6; W 2.75; H 1.5cm. Wt 257.86g.

XRF-analysis (Kruse and Tate 1992): see **Cat. Table 1**.

Nelson collection (see **1:3**); Shetelig (ed.) 1954, fig. 85 *or* 86; Lewis 1982, no. 87, fig. 8,5; Kruse 1988a; Philpott 1990, 38 (pl.); Kruse and Tate 1992, 304–15, 320.

1:6 Silver 'mark' ingot (AC: 1)

As **1:1**, but with a central cross in relief on its upper face, the longer arm of which extends across the width of the ingot (as **1:7** and **8**, but see also **1:9–11**); some concretions.

Nicks: 0. L 8.55; W 2.7; H 1.7cm (over cross). Wt 258.10g.

Lewis 1982, no. 88; Kruse 1988a.

1:7 Silver 'mark' ingot (MME: 1873,1101.1)

As **1:1**, but with the central cross in relief on its upper face (as **1:6** and **8**).

Nicks: 1 (on lower larger side angle). L 8.6; W 2.7; H 1.65cm (over cross). Wt 256.28g (drilled).

Purchased by the British Museum from Rollin & Feuardent in 1873: ex-Wigan (?); Anon. 1896, 657 (pl.); Kruse 1988a.

1:8 Silver 'mark' ingot (AM: 1909.522)

As **1:1,** but with the central cross in relief on its upper face (as **1:6** and **7**; **Cat. Fig. 5**).

Nicks: 2 (1 on each lower side angle). L 8.6; W 2.7; H 1.65cm (over cross). Wt 256.81g.

XRF-analysis (Macalister in Kruse and Tate 1992): see **Cat. Table 1**.

Evans collection: ex-Dymock (Sotheby's, 1–4 June 1858, lot 482), ex-Bateman (Sotheby's, 14–15 June 1893, lot 172); Thompson 1956, pl. xii,a; Lewis 1982, 65; Kruse 1988a; Macalister in Kruse and Tate 1992, 324–5.

1:9 Silver 'mark' ingot (in private possession)

As **1:1**, but with the central cross in relief (as **1:6–8**), and also a ridge running diagonally across its upper face which continues down both sides (**Cat. Fig. 6**). This ridge was caused by a crack in the mould (as also **1:10** and **11**) and is higher than the cross, which has a worn appearance in comparison with those on **1:6–8**. There is a small flange at the bottom centre of the shorter main edge.

Nicks: 8 (all slight, with 7 on the lower angle of one end, and 1 on the flange). L 8.5; W 2.8; H 1.6cm (over cross). Wt 256.84g.

Blunt collection (ex-Assheton); Lewis 1982, 66; Kruse 1988a.

1:10 Silver 'mark' ingot (MME: 1841,0711.1)

As **1:1**, but with both the worn cross in relief and the ridge caused by the cracked mould (as **1:9** and **11**).

Nicks: 0. L 8.53; W 2.7; H 1.6cm (over cross). Wt 256.45g (drilled).

Hawkins 1847, 112, fig. 1; Anon. 1896, 657 (pl.); Lewis 1982, 65; Graham-Campbell 1987a, 333, fig. 2; Kruse 1988a.

1:11 Silver 'mark' ingot (AC: 2)

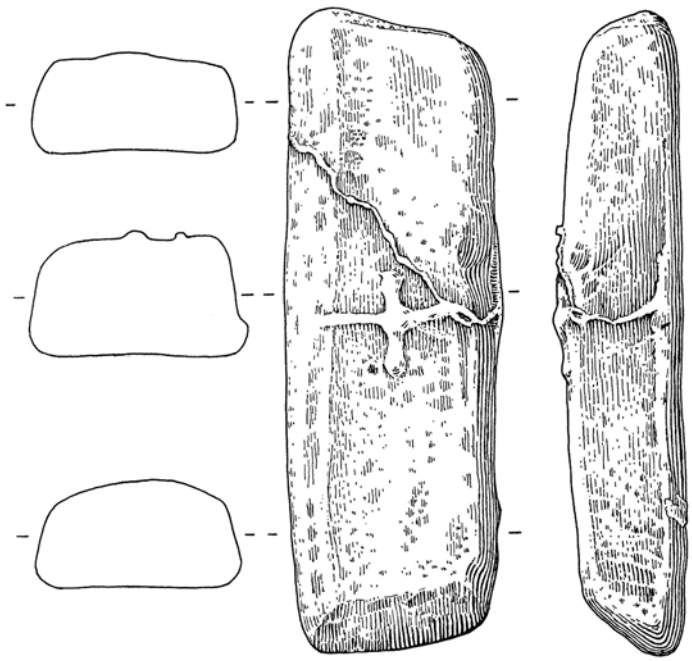
As **1:1**, but with both the worn cross in relief and the ridge caused by the cracked mould (as **1:9** and **10**); pitted at one end of the upper face. There are the remains of its painted 'Duchy' weight on the reverse.

Nicks: 0. L 8.55; W 2.7; H 1.5cm (over cross). Wt 250.58g.

Lewis 1982, no. 89; Kruse 1988a.

2. Oblong ingots (1:12–140)

As described above, Cuerdale ingots have been variously listed and/or illustrated in: Hawkins 1847, figs 2–10; *The Strand Magazine* (1896), 657 (for the British Museum); Shetelig (ed.) 1954, figs 85–6, Lewis 1982, and Philpott 1990 (for the Nelson collection); Thompson 1956 (for the Evans collection); and Kruse



Cat. Figure 6 'Mark' ingot (**1:9**), in private possession

1988a. However, the only references given below are to the original figures published by Hawkins (in 1847), and to Kruse and Tate 1992 (for silver analyses: see **Cat. Table 1,** p. 192). The ingots are all illustrated on **Pls 3–17**.

1:12 Silver oblong ingot (MME: 1841,0711.3)
Trapezoidal section, with pointed ends; a slight flange runs down both sides.
Nicks: 2. L 10.1; W 1.4; H 1.2cm. Wt 102.07g (drilled).

Hawkins 1847, 112, fig. 2.

1:13 Silver oblong ingot (MME: 1841,0711.4)
D-shaped section, with rounded ends.
Nicks: 2. L 11.75; W 1.7; H 1.0cm. Wt 136.9g (drilled).

1:14 Silver oblong ingot (MME: 1841,0711.5)
Sub-rectangular section, with sub-rectangular ends.
Nicks: 1. L 9.7; W 0.7; H 1.0cm. Wt 128.17g (drilled).

XRF-analysis: BMRL (File 5935), by Janet Lang (1991).
Ag: 97%; Cu: 2.7%; Pb: 0.1%; Au: 0.5%

1:15 Silver oblong ingot (MME: 1841,0711.6)
Trapezoidal section, with rounded ends; one end is more pitted than the other (differential corrosion).
Nicks: 3. L 8.4; W 1.35; H 1.4cm. Wt 104.78g (drilled).

1:16 Silver oblong ingot (MME: 1841,0711.7)
Trapezoidal section, with pointed ends (cf. **1:139**).
Nicks: 2. L 9.3; W 1.2; H 1.0cm. Wt 75.43g (drilled).

1:17 Silver oblong ingot (MME: 1841,0711.8)
Triangular section, tapering to pointed ends, with central irregularity.
Nicks: 0. L 10.6; W 0.9; H 1.0cm. Wt 46.83g (drilled).

1:18 Silver oblong ingot (MME: 1841,0711.9)
Sub-rectangular section, with rounded ends, roughly hammered on upper and lower surfaces.
Nicks: 12. L 11.8; W 1.1; H 0.8cm. Wt 58.24g (drilled).

1:19 Silver oblong ingot (MME: 1841,0711.10)
Trapezoidal section, with rounded ends; a low transverse ridge runs across the upper surface.
Nicks: 1. L 8.9; W 0.9; H 0.85cm. Wt 46.93g (drilled).

1:20 Silver oblong ingot (MME: 1841,0711.11)
Sub-triangular section, with pointed ends; it has finely pitted upper surfaces.
Nicks: 0. L 7.8; W 0.75; H 0.75cm. Wt 24.01g (drilled).

1:21 Silver oblong ingot (MME: 1841,0711.12)
D-shaped section, with rounded ends.
Nicks: 1. L 7.9; W 1.55; H 0.8cm. Wt 61.24g (drilled).

1:22 Silver oblong ingot (MME: 1841,0711.13)
Sub-rectangular section, with one rounded end and the other irregular from casting flaws.
Nicks: 3. L 6.2; W 1.5; H 0.7cm. Wt 47.13g (drilled).

1:23 Silver oblong ingot (MME: 1841,0711.14)
Oval/D-shaped section, with rounded ends.
Nicks: 0. L 7.3; W 1.15; H 0.7cm. Wt 33.50g (drilled).

1:24 Silver oblong ingot (MME: 1841,0711.15)
Sub-rectangular section, with rounded ends; casting flaw on one side and pitted surfaces.
Nicks: 1. L 6.4; W 1.5; H 0.6cm. Wt 43.16g (drilled).

1:25 Silver oblong ingot (MME: 1841,0711.16)
Trapezoidal section, with rounded ends.
Nicks: 1. L 6.2; W 1.15; H 0.9cm. Wt 45.11g (drilled).

1:26 Silver oblong ingot (MME: 1841,0711.17)
D-shaped section, with rounded ends.
Nicks: 2. L 5.4; W 1.4; H 0.9cm. Wt 43.07g (drilled).

1:27 Silver oblong ingot (MME: 1841,0711.18)
Variable section (trapezoidal at one end, flattening to ovoid at the other through a D-shaped centre), with rounded ends.
Nicks: 1 (?not deliberate). L 4.9; W 1.4; H 0.8cm. Wt 31.02g (drilled).

1:28 Silver oblong ingot (MME: 1841,0711.19)
Sub-rectangular section, with rounded ends.
Nicks: 6. L 5.6; W 1.2; H 0.6cm. Wt 26.42g.

1:29 Silver oblong ingot (MME: 1841,0711.20)
D-shaped section, with rounded ends.
Nicks: 1. L 6.6; W 0.9; H 0.7cm. Wt 29.08g (drilled).

1:30 Silver oblong ingot (MME: 1841,0711.21)
D-shaped section, with rounded ends.
Nicks: 4. L 6.6; W 1.1; H 0.8cm. Wt 37.07g (drilled).

1:31 Silver oblong ingot (MME: 1841,0711.22)
Sub-triangular section, with rounded ends.
Nicks: 7. L 7.7; W 0.8; H 0.7cm. Wt 27.89g.

1:32 Silver oblong ingot (MME: 1841,0711.23)
Trapezoidal section, with rounded ends.
Nicks: 12. L 6.6; W 0.9; H 0.7cm. Wt 25.19g.

1:33 Silver oblong ingot (MME: 1841,0711.24)
Sub-triangular section, with rounded ends.
Nicks: 3. L 6.3; W 1.2; H 1.0cm. Wt 42.59g (drilled).

1:34 Silver oblong ingot (MME: 1841,0711.25)
D-shaped section, with rounded ends; pitted at one end.
Nicks: 6. L 7.0; W 0.9; H 0.7cm. Wt 26.12g.

1:35 Silver oblong ingot (MME: 1841,0711.26)
Trapezoidal section, with one rounded and one pointed end.
Nicks: 4. L 5.6; W 1.0; H 0.8cm. Wt 28.05g (drilled).

1:36 Silver oblong ingot (MME: 1841,0711.27)
Oval/D-shaped section, with rounded ends.
Nicks: 2. L 6.5; W 1.0; H 0.8cm. Wt 30.07g (drilled).

1:37 Silver oblong ingot (MME: 1841,0711.28)
D-shaped section, with rounded ends.
Nicks: 6. L 6.4; W 1.1; H 0.7cm. Wt 32.85g (drilled).

1:38 Silver oblong ingot (MME: 1841,0711.29)
D-shaped section, with rounded ends.
Nicks: 3. L 5.7; W 0.95; H 0.7cm. Wt 25.02g.

1:39 Silver oblong ingot (MME: 1841,0711.30)
Trapezoidal section, with rounded ends; large casting flaw at one end of upper surface.
Nicks: 10. L 5.3; W 1.0; H 0.7cm. Wt 23.69g.

1:40 Silver oblong ingot (MME: 1841,0711.31)
Sub-triangular section, with rounded ends (one slightly upturned).
Nicks: 16 (inc. a deep wedge-shaped cut into one side). L 5.8; W 0.7; H 0.8cm. Wt 24.04g.

1:41 Silver oblong ingot (MME: 1841,0711.32)
Sub-triangular section, with rounded ends.
Nicks: 3. L 6.5; W 0.8; H 0.8cm. Wt 30.45g.

1:42 Silver oblong ingot (MME: 1841,0711.33)
Variable section (sub-triangular at ends and trapezoidal at centre), with rounded ends (**Fig. 4.4**). A deep, wedge-shaped chisel cut across the lower face, with a parallel pair of light cuts, has resulted in the upper face being flattened (as if hammered directly) for about one-third of its length in which is located the modern drill-hole; there is one prominent nick on a lower angle.
Nicks: 1. L 5.0; W 0.9; H 0.9cm. Wt 24.84g (drilled).

1:43 Silver oblong ingot (MME: 1841,0711.34)
D-shaped section, with rounded ends; several deep casting flaws from an irregular mould.
Nicks: 9. L 5.35; W 1.75; H 0.85cm. Wt 50.59g (drilled).

Hawkins 1847, 112, fig. 3.

1:44 Silver oblong ingot (MME: 1841,0711.35)
Sub-rectangular section, with rounded ends; a series of ridges on the upper surface form a diagonal cross at one end and a V-shape across the centre.
Nicks: 1. L 4.3; W 1.1; H 0.6cm. Wt 21.12g.

1:45 Silver oblong ingot (MME: 1841,0711.36)
D-shaped section, with rounded ends.
Nicks: 0. L 5.9; W 1.15; H 0.7cm. Wt 27.06g.

1:46 Silver oblong ingot (MME: 1841,0711.37)
Oval/D-shaped section, with one rounded and one pointed end.
Nicks: 13. L 6.8; W 1.3; H 0.65cm. Wt 34.26g (drilled).

1:47 Silver oblong ingot (MME: 1841,0711.38)
D-shaped section, with rounded ends (one broader and thicker than the other); cloth impression over upper surface (p. 82; **Fig. 4.7**).
Nicks: 13. L 6.6; W 1.4; H 0.9cm. Wt 38.14g (drilled).

1:48 Silver oblong ingot (MME: 1841,0711.39)
Oval/D-shaped section, with one rounded and one pointed end; smooth upper surface (cf. **1:293**).
Nicks: 5 (light). L 6.8; W 1.5; H 1.0cm. Wt 54.44g (drilled).

1:49 Silver oblong ingot (MME: 1841,0711.40)
Sub-triangular section, with rounded ends (and a broad flange around one).
Nicks: 7. L 5.05; W 1.0 (2.15cm, across flange); H. 1.1cm. Wt 45.72g (drilled).

1:50 Silver oblong ingot (MME: 1841,0711.41)
Sub-rectangular section, with rounded ends.
Nicks: 0. L 4.6; W 0.8; H 0.6cm. Wt 16.04g.

1:51 Silver oblong ingot (MME: 1841,0711.42)
Sub-rectangular section, with one end rounded and the other irregular; it is the most heavily nicked of all the Cuerdale ingots (**Fig. 4.5**).
Nicks: *c.* 36 (one side is nicked along its full length, incorporating two main groups of multiple nicks; there are 6 nicks on the other side, with a deep pair across and 2 on each angle). L 5.0; W 0.9; H 0.6cm. Wt 19.03g.

1:52 Silver oblong ingot (MME: 1841,0711.43)
Sub-rectangular section, with rounded ends.
Nicks: 4. L 4.6; W 1.2; H 0.8cm. Wt 32.08g (drilled).

1:53 Silver oblong ingot (MME: 1841,0711.44)
D-shaped section, with rounded ends; partially hammered on both upper and lower faces.
Nicks: 11. L 4.3; W 1.1; H 0.7cm. Wt 22.92g.

1:54 Silver oblong ingot (MME: 1841,0711.45)
D-shaped section, with rounded ends (one having a small projection); half its upper face is hammered, and both sides partially, whilst part of its lower face has been sheared off across a central ovoid casting flaw, perhaps to remove an intrusion. This ingot is badly cracked because of its faulty casting and subsequent treatment.
Nicks: 0. L 4.8; W 1.3; H 0.7cm. Wt 27.23g (drilled).

1:55 Silver oblong ingot (MME: 1841,0711.46)
Sub-rectangular section, with rounded ends, one of which has a slight flaw from its mould surface.
Nicks: 7. L 4.6; W 0.9; H 0.8cm. Wt 21.85g.

1:56 Silver oblong ingot (MME: 1841,0711.47)
Sub-triangular section, with rounded ends; mould and casting flaws.
Nicks: 2. H 4.2; W 1.2; H 0.8cm. Wt 24.14g.

1:57 Silver oblong ingot (MME: 1841,0711.48)
D-shaped section, with rounded ends.
Nicks: 6. L 4.2; W 1.4; H 0.6cm. Wt 23.26g (drilled; contains broken drill-bit).

1:58 Silver oblong ingot (MME: 1841,0711.49)
Sub-triangular section, with rounded ends.
Nicks: 7. L 4.25; W 1.2; H 0.9cm. Wt 25.01g.

1:59 Silver oblong ingot (MME: 1841,0711.50)
Sub-triangular section, with rounded ends; casting spur on lower face.
Nicks: 1. L 3.9; W 0.8; H 1.3cm (1.5cm, with spur). Wt 24.17g.

1:60 Silver oblong ingot (MME: 1841,0711.51)
Sub-rectangular section, with sub-rectangular ends (slightly hammered); upper and lower faces hammered for approximately half their lengths.
Nicks: 4. L 3.5; W 1.2; H 0.8cm. Wt 22.11g (drilled).

1:61 Silver oblong ingot (MME: 1841,0711.52)
Trapezoidal section, with rounded ends.
Nicks: 5. L 3.4; W 1.1; H 0.8cm. Wt 21.28g (drilled).

1:62 Silver oblong ingot (MME: 1841,0711.53)
D-shaped section, with rounded ends.
Nicks: 2. L 3.4; W 1.3; H 0.7cm. Wt 18.71g.

1:63 Silver oblong ingot (MME: 1841,0711.54)
Sub-rectangular section, with one end rounded and the other more or less squared off; pitted mould surfaces.
Nicks: 8. L 3.3; W 1.3; H 0.8cm. Wt 26.20g.

1:64 Silver oblong ingot (MME: 1841,0711.55)
Sub-rectangular section, with rounded ends; pitted mould surfaces.
Nicks: 2. L 3.5; W 1.1; H 0.6cm. Wt 15.58g.

1:65 Silver oblong ingot (MME: 1841,0711.56)
D-shaped section, with rounded ends, and a substantial droplet fused to its lower face (uppermost in mould); pitted mould surfaces.
Nicks: 4. L 3.6; W 0.9; H 0.6cm (1.0cm, with droplet). Wt 12.63g.

1:66 Silver oblong ingot (MME: 1841,0711.57)
Sub-rectangular section, with rounded ends; pitted mould surfaces.
Nicks: 4. L 2.8; W 0.9; H 0.7cm. Wt 10.23g.

1:67 Silver oblong ingot (MME: 1841,0711.58)
Variable section (from sub-triangular at one end to D-shaped at the other), with rounded ends; pitted mould surfaces.
Nicks: 6. L 2.9; W 1.0; H 0.7cm. Wt 12.02g.

1:68 Silver oblong ingot (MME: 1841,0711.59)
D-shaped section, with rounded ends; pitted mould surfaces.
Nicks: 0. L 2.9; W 1.1; H 0.65cm. Wt 9.68g.

1:69 Silver oblong ingot (MME: 1841,0711.60)
D-shaped section, with rounded ends; pitted mould surfaces.
Nicks: 7. L 2.2; W 1.1; H 0.65cm. Wt 9.68g.

1:70 Silver oblong ingot (MME: 1841,0711.61)
Trapezoidal section, with rounded ends.
Nicks: 0. L 2.7; W 0.8; H 0.6cm. Wt 8.37g.

1:71 Silver oblong ingot (MME: 1841,0711.62)
D-shaped section, with up-turned rounded ends; casting spur to one side of lower face.
Nicks: 7. L 2.5; W 0.8; H 0.8cm. Wt 7.82g.

1:72 Silver oblong ingot (MME: 1841,0711.63)
Sub-triangular section, with rounded ends.
Nicks: 1. L 2.5; W 0.5; H 0.65cm. Wt 5.70g.

1:73 Silver oblong ingot (MME: 1841,0711.64)
Sub-triangular section, with upturned rounded ends.
Nicks: 1. L 2.3; W 0.85; H 0.65cm. Wt 7.10g.

1:74 Silver oblong ingot (MME: 1841,0711.65)
D-shaped section (but with a bulge to one side of the lower face), with rounded ends; coarse cloth impression over the upper surface (see p. 82).
Nicks: 8. L 2.7; W 1.0 (1.1cm, with bulge); H 0.6cm. Wt 10.88g.
Hawkins 1847, 112, fig. 4.

1:75 Silver oblong ingot (MME: 1841,0711.66)
D-shaped section, with pointed ends; fine cloth impression over the upper surface (see p. 82).
Nicks: 7. L 2.5; W 1.2; H 0.7cm. Wt 11.67g.

1:76 Silver oblong ingot (MME: 1841,0711.67)
Oval/D-shaped section, with rounded ends.
Nicks: 2. L 2.5; W 1.25; H 0.6cm. Wt 10.58g.

1:77 Silver oblong ingot (MME: 1841,0711.68)
Ovoid section, with rounded ends, except that one has a small cylindrical projection (snapped).
Nicks: 0. L 2.5; W 1.05; H 0.6cm. Wt 8.09g.

1:78 Silver oblong ingot (MME: 1841,0711.69)
D-shaped section, with one rounded end and the other having a large projection; pitted

mould surface.
Nicks: 2. L 2.9; W 0.9; H 0.5cm. Wt 6.60g.

1:79 Silver oblong ingot (MME: 1841,0711.88)
With tapered profile of variable section (trapezoidal at the thick end and rectangular at the thin), with rounded ends; the thin end is hammered on all four sides.
Nicks: 7. L 6.4; W 1.3–1.0; H 1.0–0.4cm. Wt 59.44g (drilled).

1:80 Silver oblong ingot (MME: 1841,0711.89)
Rectangular section, with sub-rectangular ends; hammered on all faces.
Nicks: 2. L 8.3; W 1.7; H 0.8cm. Wt 78.26g (drilled).

XRF-analysis: BMRL (File 5935), by Janet Lang (1991).
Ag: 96%; Cu: 3.5%; Pb: -; Au: 0.5%

Hawkins 1847, 113, fig. 10.

1:81 Silver oblong ingot (MME: 1841,0711.90)
Rectangular section, with sub-rectangular ends; hammered on all faces.
Nicks: 3. L 6.5; W 1.0; H 0.5cm. Wt 20.43g.

1:82 Silver oblong ingot (MME: 1841,0711.91)
Tapered octagonal (faceted rectangular) section, with rounded thick end and straight thin end which is angular in profile; hammered on all sides and the thin end.
Nicks: 9. L 7.45; W 1.0–0.7; H 0.8–0.7cm. Wt 38.84g (drilled).

1:83 Silver oblong ingot (MME: 1841,0711.92)
Octagonal (faceted rectangular) section, with rounded ends; hammered on all sides.
Nicks: 2. L 6.3; W 0.9; H 0.7cm. Wt 24.27g (drilled).

1:84 Silver oblong ingot (MME: 1841,0711.93)
Rectangular section (although the upper angles are slightly chamfered), with rounded ends; finely hammered on all four sides, with a deep transverse cut across the upper face.
Nicks: 2. L 6.7; W 0.7; H 0.7cm. Wt 24.87g (drilled).

1:85 Silver oblong ingot (MME: 1841,0711.95)
Octagonal (faceted rectangular) section, with rounded ends; hammered upper and lower faces.
Nicks: 0. L 3.5; W 0.8; H 0.5cm. Wt 11.73g.

Hawkins 1847, 113, fig. 9.

1:86 Silver oblong ingot (MME: 1841,0711.96)
Octagonal (faceted rectangular) section, with rounded ends; cloth impressions on ends, otherwise all four sides hammered flat.
Nicks: 3. L 3.3; W 0.9; H 0.7cm. Wt 14.51g.

1:87 Silver oblong ingot (MME: 1841,0711.97)
Sub-rectangular section (although one side is slightly thicker than the other), with rounded ends; hammered on all four sides.
Nicks: 1. L 3.2; W 0.8; H 0.4–0.3cm. Wt 7.17g.

1:88 Silver oblong ingot (MME: 1841,0711.98)
Rectangular section, with rectangular ends; hammered on all faces and bent in two.
Nicks: 13. L 2.2 (*c.* 3.9cm, straightened); W 0.8; H 0.3cm. Wt 8.06g.

1:89 Silver oblong ingot (MME: 1841,0711.187)
Irregular polygonal section, with one rounded and one irregular end; hammered flat on one main face, but only partially on the other, with hammered areas on both sides.
Nicks: 2. L 2.6; W 1.7; H 0.7cm. Wt 19.06g.

1:90 Silver oblong ingot (CM: 1906,113.2517)
Sub-rectangular section, with rounded ends.
Nicks: 24. L 5.45; W 0.9; H 0.7cm. Wt 26.26g.

Weber donation to the British Museum (1906); ex-Royal Mint, Duchy donation (?).

1:91 Silver oblong ingot (AC: 3)
Ovoid section, tapering to one of its rounded ends; pitted upper surface and some white concretion. Painted 'Duchy' weight.
Nicks: 0. L 11.7; W 1.5; H 0.8cm. Wt 92.16g.

1:92 Silver oblong ingot (AC: 4)
Ovoid section, with rounded ends; pitted upper surface. Painted 'Duchy' weight.
Nicks: 13 (one full nick, and a group of *c.* 12 light cuts in pairs). L 10.1; W 1.5; H 0.8cm. Wt 81.28g.

1:93 Silver oblong ingot (AC: 5)
Sub-rectangular section, with rounded ends; some large pits. Painted 'Duchy' weight.
Nicks: 8. L 8.6; W 1.3; H 1.0cm. Wt 76.96g.

1:94 Silver oblong ingot (AC: 6)
High sub-rectangular section, with rounded ends; some pitting. Painted 'Duchy' weight.
Nicks: 1. L 7.8; W 1.1; H 1.4cm. Wt 74.47g.

1:95 Silver oblong ingot (AC: 7)
Ovoid section, with rounded ends, but irregular in outline; pitted upper surface. Painted 'Duchy' weight.
Nicks: 3. L 7.2; W 1.25; H 0.7cm. Wt 36.48g.

1:96 Silver oblong ingot (AC: 8)
Sub-triangular section, modified along most of its upper angle by hammering (as also along both sides), tapering to one of its rounded ends; upper surfaces are pitted between the hammered areas. Painted 'Duchy' weight.
Nicks: 1. L 6.9; W 1.1; H 0.8cm. Wt 37.25g.

1:97 Silver oblong ingot (AC: 9)
Sub-rectangular section, with rounded ends; slightly pitted upper surface and rough reverse. Painted 'Duchy' weight.
Nicks: 3. L 6.6; W 1.15; H 0.9cm. Wt 40.14g.

1:98 Silver oblong ingot (AC: 10)
Ovoid section, tapering unevenly to one of its rounded ends; heavily pitted upper surface. Painted 'Duchy' weight.
Nicks: 0. L 6.1; W 1.15; H 0.7cm. Wt 30.09g.

1:99 Silver oblong ingot (AC: 11)
Sub-rectangular section, with rounded ends; generally smooth, but with a lump on its upper surface (i.e. from within the mould).
Nicks: 3. L 5.95; W 0.8; H 0.9cm (inc. lump). Wt 26.51g.

Assheton collection: ex-Moore (Burton's, April 1848, lot 323; **Cat. Fig. 2**).

1:100 Silver oblong ingot (AC: 12)
Sub-rectangular section, tapering to rounded ends, with surface pitting.
Nicks: 1. L 8.1; W 0.7; H 0.7cm. Wt 5.32g.

1:101 Silver oblong ingot (AC: 13)
Sub-rectangular section, with rounded ends. Painted 'Duchy' weight.
Nicks: 1. L 6.2; W 0.85; H 0.8cm. Wt 26.74g.

1:102 Silver oblong ingot (AC: 14)
D-shaped section, with rounded ends; pitted upper surface. Painted 'Duchy' weight.
Nicks: 5. L 5.5; W 1.0; H 0.9cm. Wt 26.93g.

1:103 Silver oblong ingot (AC: 15)
Ovoid section, with rounded ends, on one of which is a white concretion; pitted upper surface, with a depression in the lower face. Painted 'Duchy' weight.
Nicks: 1. L 5.5; W 1.5; H 0.8cm. Wt 33.59g.

1:104 Silver oblong ingot (AC: 16)
D-shaped section, with rounded ends; heavily pitted upper surface. Painted 'Duchy' weight.
Nicks: 0. L 5.05; W 1.1; H 0.8cm. Wt 28.10g.

1:105 Silver oblong ingot (AC: 17)
Irregularly shaped (waisted), of ovoid section, with rounded, flattish ends; pitted upper surface. Painted 'Duchy' weight.
Nicks: 0. L 6.1; W 1.3; H 0.6cm. Wt 25.09g.

1:106 Silver oblong ingot (AC: 18)
D-shaped section, with rounded ends, hammered slightly on both sides; pitted upper surface, with central lump (i.e. from within the mould). Painted 'Duchy' weight.
Nicks: 0. L 5.2; W 1.6; H 0.9cm (inc. lump). Wt 38.60g.

1:107 Silver oblong ingot (AC: 19)
D-shaped section, with rounded ends, but with a hammered area at the centre of the upper face which is pitted; there is a small lump on the reverse, apparently a secondary casting to fill a central cavity. Painted 'Duchy' weight.
Nicks: 2. L 5.57; W 1.0; H 0.8cm. Wt 26.09g.

1:108 Silver oblong ingot (AC: 20)
Sub-rectangular section, with rounded ends; slightly pitted surface. Painted 'Duchy' weight.
Nicks: 1. L 5.24; W 0.9; H 0.64cm. Wt 20.63g.

1:109 Silver oblong ingot (AC: 21)
Sub-rectangular section, with rounded ends; slightly pitted surface. Painted 'Duchy' weight.
Nicks: 1 (deeply into one side). L 4.8; W 0.7 (0.78cm, with nick); H 0.7cm. Wt 15.76g.

1:110 Silver oblong ingot (AC: 22)

Irregular ovoid section, with rounded ends, one of which tapers to a point; pitted upper surface. Painted 'Duchy' weight.

Nicks: 4. L 4.5; W 1.57; H 0.8cm. Wt 27.51g.

1:111 Silver oblong ingot (AC: 23)

D-shaped section, with rounded ends; pitted upper surface. Painted 'Duchy' weight.

Nicks: 4. L 4.0; W 1.1; H 0.7cm. Wt 18.22g.

1:112 Silver oblong ingot (AC: 24)

Sub-rectangular section, with one rounded end and the other oblique; slightly pitted, with rough lower face. Painted 'Duchy' weight.

Nicks: 2. L 3.65; W 0.7; H 0.64cm. Wt 10.60g.

1:113 Silver oblong ingot (AC: 25)

Sub-rectangular section, with rounded ends; slightly pitted. Painted 'Duchy' weight.

Nicks: 5. L 3.14; W 0.64; H 0.66cm. Wt 8.74g.

1:114 Silver oblong ingot (AC: 26)

D-shaped section, with rounded ends; slightly pitted. Painted 'Duchy' weight.

Nicks: 11. L 2.0; W 0.8; H 0.6cm. Wt 5.98g.

1:115 Silver oblong ingot (AC: 27)

Sub-triangular section, with rounded ends; pitted upper surfaces and rough lower face. Painted 'Duchy' weight.

Nicks: 5. L 2.75; W 0.7; H 1.03cm. Wt 11.02g.

1:116 Silver oblong ingot (AC: 28)

Sub-rectangular section, with irregularly shaped, but rounded ends; heavily pitted. Painted 'Duchy' weight.

Nicks: 6 (in two groups of 3, centrally placed on opposite sides). L 2.66; W 1.2; H 0.5cm. Wt 11.38g.

1:117 Silver oblong ingot (AC: 29)

Ovoid section, with rounded ends, one of which tapers to a point; slightly pitted upper surface and some white concretions. Painted 'Duchy' weight.

Nicks: 0. L 2.8; W 1.17; H 1.1cm. Wt 10.42g.

1:118 Silver oblong ingot (LM: 53.114.42)

Trapezoidal section, with rounded ends; central area of upper face hammered flat.

Nicks: 6 (inc. slices off both lower edges at centre, as well as 2 nicks on both lower angles). L 10.3; W 1.5; H 0.9cm. Wt 94.12g.

Nelson collection; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:119 Silver oblong ingot (LM: 53.114.57)

Trapezoidal section, with rounded ends; lump on lower edge of one side, from the mould; slightly pitted surface.

Nicks: 13. L 6.7; W 1.4 (inc. lump); H 1.0cm. Wt 60.72g.

Nelson collection; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:120 Silver oblong ingot (LM: 53.114.44)

D-shaped section, markedly thickest at centre, thinning to rounded ends; heavily pitted upper surface. Remains of painted 'Duchy' weight on lower face.

Nicks: 4. L 8.1; W 1.4; H 1.3cm. Wt 83.83g.

Nelson collection: ex-Lawrence (Glendining's, 28 November 1951, lot 1381); ex-Cornthwaite, *Spink's Numismatic Circular* (March–April 1920); Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:121 Silver oblong ingot (LM: 53.114.60)

D-shaped section, with rounded ends, one of which tapers to a point; pitted surface. Remains of painted 'Duchy' weight on lower face.

Nicks: 8. L 5.5; W 1.0; H 0.75cm. Wt 27.75g.

Nelson collection; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:122 Silver oblong ingot (LM: 53.114.66)

Variable section, from D-shaped to trapezoidal at one end, with rounded ends; pitted surface.

Nicks: 2. L 5.3; W 1.3; H 0.8cm. Wt 30.58g.

Nelson collection; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:123 Silver oblong ingot (LM: 53.114.32)

D-shaped section, with rounded ends and small lump on one side from the mould; pitted surface.

Nicks: 0. L 2.55; W 1.1; H 0.7cm. Wt 11.51g.

Nelson collection; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:124 Silver oblong ingot (LM: 53.114.34)

Rectangular section, hammered, with rectangular ends of which one is thinner than the other.

Nicks: 1. L 6.1; W 1.4; H 0.4cm. Wt 22.78g.

Nelson collection; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:125 Silver oblong ingot (AM: 1909.523)

D-shaped section, with rounded ends.

Nicks: 1. L 8.7; W 1.6; H 0.8cm. Wt 74.15g.

Evans collection; Macalister in Kruse and Tate 1992, 324–5 (see **Cat. Table 1**).

1:126 Silver oblong ingot (AM: 1909.524)

Ovoid/D-shaped section, with rounded ends.

Nicks: 1. L 6.7; W 1.1; H 0.65cm. Wt 30.58g.

Evans collection; Macalister in Kruse and Tate 1992, 324–5 (see **Cat. Table 1**).

1:127 Silver oblong ingot (AM: 1909.525)

Sub-rectangular section, with rounded ends; a cross in low relief occupies approximately one half of the upper surface.

Nicks: 4. L 4.9; W 1.4; H (inc. cross) 0.8cm. Wt 33.56g.

Evans collection; Macalister in Kruse and Tate 1992, 324–5 (see **Cat. Table 1**).

1:128 Silver oblong ingot (AM: 1909.530)

Sub-triangular section, with rounded ends.

Nicks: 1. L 3.9; W 1.0; H 0.8cm. Wt 18.68g.

Evans collection; Macalister in Kruse and Tate 1992, 324–5 (see **Cat. Table 1**).

1:129 Silver oblong ingot (AM: 1909.528)

Sub-triangular section, with rounded ends; convex lower face (bean-shaped).

Nicks: 2. L 2.1; W 0.75; H 0.6cm. Wt 5.50g.

Evans collection; Macalister in Kruse and Tate 1992, 324–5 (see **Cat. Table 1**).

1:130 Silver oblong ingot (AM: 1909.534)

Sub-triangular section, with rounded ends; convex lower face (bean-shaped).

Nicks: 1. L 1.6; W 0.7; H 0.7cm. Wt 3.56g.

Evans collection; Macalister in Kruse and Tate 1992, 324–5 (see **Cat. Table 1**).

1:131 Silver oblong ingot (FM: 708.10)

Trapezoidal section, with one bluntly pointed and one sub-rectangular end; hammered into a U-shaped loop.

Nicks: *c.* 17 (inc. area of multiple nicking across one angle at one end). L (of loop) 6.9; W 1.2; H 1.1cm. Wt 102.65g.

Duchy donation to the Cambridge Antiquarian Society (1844); transferred to the Fitzwilliam Museum.

1:132 Silver oblong ingot (FM: 708.06)

D-shaped section, with a thick rounded end and the other thinner and bluntly pointed; hammered into a U-shaped loop. Painted 'Duchy' weight.

Nicks: 2. L (of loop) 4.0; W 1.0; H 0.6cm (0.4cm, at thin end). Wt 22.54g.

Duchy donation to the Cambridge Antiquarian Society (1844); transferred to the Fitzwilliam Museum.

1:133 Silver oblong ingot (FM: 708.07)

D-shaped section, with rounded ends; a casting flaw in the lower surface results from a burnt out inclusion in the silver, which caused a bulge around a large pit. Painted 'Duchy' weight.

Nicks: 2. L 5.0; W 1.0; H 0.7cm (0.95cm, inc. bulge). Wt 22.93g.

Duchy donation to the Cambridge Antiquarian Society (1844); transferred to the Fitzwilliam Museum.

1:134 Silver oblong ingot (CAA: 1939.43)

Trapezoidal section, with rounded ends; there is a substantial flaw at one end of the pitted upper surface and a lightly incised cross on the reverse. Painted 'Duchy' weight.

Nicks: 3. L 8.2; W 1.2; H 1.0cm. Wt 73.80g.

Duchy donation to the Cambridge Antiquarian Society (1844).

1:135 Silver oblong ingot (CAA: 1939.43)

D-shaped section, with rounded ends. Painted 'Duchy' weight on reverse.

Nicks: 4. L 3.9; W 1.05; H 0.7cm. Wt 18.03g.

Duchy donation to the Cambridge Antiquarian Society (1844).

1:136 Silver oblong ingot (NMS: IM 24)

D-shaped section, with rounded ends.

Nicks: 2. L 5.9; W 1.2; H 0.8cm. Wt 35.93g (drilled).

Donated to the Society of Antiquaries of Scotland, by Andrew Wilson, in 1871; Kruse and Tate 1992, 320 (see **Cat. Table 1**).

1:137 Silver oblong ingot (Alnwick Castle: no. 353)

Ovoid section, with rounded ends.

Nicks: 1 (on edge). L 3.8; W 1.2; H 1.1cm.

Wt 18.51g.

Duke of Northumberland's collection (Alnwick Castle Museum); Bruce 1880, 94, no. 533.

1:138 Silver oblong ingot (lost)
The uppermost of the three ingots drawn by Charles Roach Smith, on p. 95 of his 'Notebook' from 1842/3 (**Pl. 10**), as described above (p. 177), and no longer known to exist (see also **1:139** and **140**). Although this ingot is sketched twice, both (side) views are the same.
Nicks? L *c.* 7.2; H *c.* 1.4cm. Wt *c.* 103g.

1:139 Silver oblong ingot (lost)
The central one of the three lost ingots drawn by Roach Smith (see **1:138**; **Pl. 10**), seemingly of trapezoidal section, with one pointed and one rounded end (cf. **1:16**). One edge nick is clearly depicted.
Nicks: 1(+?). L *c.* 9.3; W *c.* 1.5cm. Wt *c.* 70g.

1:140 Silver oblong ingot (lost)
The lowermost of the three lost ingots drawn by Roach Smith (see **1:138**; **Pl. 10**), seemingly of (sub-)triangular section, with rounded ends. Three edge nicks are depicted.
Nicks: 3(+?). L *c.* 11.5; W *c.* 1.4cm. Wt *c.* 116g.

3. Ovoid/circular ingots (1:141–96)

1:141 Silver ovoid ingot (MME: 1841,0711.70)
D-shaped section.
Nicks: 0. L 1.5; W 0.8; H 0.6cm. Wt 6.60g.

1:142 Silver ovoid ingot (MME: 1841,0711.71)
Sub-triangular section.
Nicks: 4. L 1.9; W 1.0; H 0.7cm. Wt 6.92g.

1:143 Silver ovoid ingot (MME: 1841,0711.72)
D-shaped section; pitted mould surface.
Nicks: 0. L 1.6; W 0.8; H 0.5cm. Wt 4.06g.

1:144 Silver ovoid ingot (MME: 1841,0711.73)
D-shaped section; pitted mould surface.
Nicks: 9 (3 groups of 3 each). L 1.5; W 1.0; H 0.6cm. Wt 4.69g.

1:145 Silver ovoid ingot (MME: 1841,0711.74)
Irregular ovoid section; rough mould surface.
Nicks: 6. L 1.4; W 0.9; H 0.7cm. Wt 4.39g.

1:146 Silver ovoid ingot (MME: 1841,0711.75)
Irregularly shaped, of irregular D-shaped section; rough mould surfaces.
Nicks: 3. L 1.7; W 1.0; H 0.55cm. Wt 4.75g.

1:147 Silver ovoid ingot (MME: 1841,0711.76)
D-shaped section.
Nicks: 0. L 1.25; W 0.75; H 0.5cm. Wt 2.94g.

1:148 Silver ovoid ingot (MME: 1841,0711.77)
D-shaped section; mould flaw towards one end of the upper surface.
Nicks: 0. L 1.2; W 0.7; H 0.4cm. Wt 2.24g.

1:149 Silver ovoid ingot (MME: 1841,0711.78)
D-shaped section.
Nicks: 0. L 1.1; W 0.8; H 0.55cm. Wt 2.55g.

1:150 Silver ovoid ingot (MME: 1841,0711.79)
D-shaped section.
Nicks: 6. L 1.35; W 0.8; H 0.5cm. Wt 2.66g.

1:151 Silver circular ingot (MME: 1841,0711.80)
D-shaped section.
Nicks: 1. D 1.1; H 0.55cm. Wt 3.82g.
Hawkins 1847, 112, fig. 5.

1:152 Silver circular ingot (MME: 1841,0711.81)
D-shaped section; with a cut bisecting the upper surface; pitted lower (mould) surface.
Nicks: 4. D 1.0; H 0.6cm. Wt 3.25g.

1:153 Silver ovoid ingot (MME: 1841,0711.82)
D-shaped section; pitted mould surface.
Nicks: 0. L 0.65; W 0.6; H 0.4cm. Wt 1.41g.

1:154 Silver ovoid ingot (MME: 1841,0711.83)
D-shaped section; pitted mould surface.
Nicks: 0. L 0.7; W 0.5; H 0.4cm. Wt 0.86g.

1:155 Silver circular ingot (MME: 1841,0711.84)
D-shaped section; pitted mould surface.
Nicks: 0. D 0.6; H 0.45cm. Wt 0.87g.

1:156 Silver ovoid ingot (MME: 1841,0711.85)
With irregular outline, of D-shaped section; pitted mould surface.
Nicks: 0. D 0.8; H 0.5cm. Wt 0.85g.

1:157 Silver ovoid ingot (MME: 1841,0711.86)
D-shaped section; pitted mould surface.
Nicks: 0. L 0.5; W 0.4cm. Wt 0.46g.

1:158 Silver ovoid ingot (MME: 1841,0711.87)
Sub-rectangular section, with rounded ends; pitted mould surface.
Nicks: 0. L 1.4; W 0.9; H 0.4cm. Wt 3.5g.

1:159 Silver ovoid ingot (MME: 1841,0711.99)
Ovoid (flattened) section; roughly hammered on upper and lower faces.
Nicks: 5. L 1.9; W 1.0; H 0.5cm. Wt 5.82g.

1:160 Silver ovoid ingot (MME: 1841,0711.100)
Rectangular section; hammered on all four sides.
Nicks: 2. L 1.9; W 0.7; H 0.45cm. Wt 4.76g.

1:161 Silver ovoid ingot (MME: 1841,0711.101)
Ovoid (flattened) section; hammered on upper and lower surfaces (cf. **1:162–3**, **167**, **169**, **171**, **173** and **175**).
Nicks: 0. L 1.95; W 0.9; H 0.55cm. Wt 5.77g.

1:162 Silver ovoid ingot (MME: 1841,0711.102)
As **1:161**.
Nicks: 7. L 1.45; W 0.6; H 0.3cm. Wt 1.88g.

1:163 Silver ovoid ingot (MME: 1841,0711.188)
As **1:161**.
Nicks: 1. L 1.2; W 0.8; H 0.3cm. Wt 2.22g.

1:164 Silver ovoid ingot (MME: 1841,0711.189)
With irregular outline; hammered flat, but still showing pitted mould surface.
Nicks: 6 (a pair and a singleton on both side edges). L 2.5; W 1.4; H 0.3cm. Wt 4.98g.

1:165 Silver circular ingot (MME: 1841,0711.190)
Ovoid (flattened) section; hammered on upper and lower faces (cf. **1:166**, **168**, **170** and **177**).
Nicks: 0. D 1.5; H 0.6cm. Wt 9.02g.

1:166 Silver circular ingot (MME: 1841,0711.191)
As **1:165**.
Nicks: 17. D 1.4; H 0.7cm. Wt 9.04g.

1:167 Silver ovoid ingot (MME: 1841,0711.192)
As **1:161**.
Nicks: 9. L 1.7; W 1.1; H 0.5cm. Wt 7.00g.

1:168 Silver circular ingot (MME: 1841,0711.193)
As **1:165**.
Nicks: 0. D 1.2; H 0.5cm. Wt 4.91g.

1:169 Silver ovoid ingot (MME: 1841,0711.194)
As **1:161**.
Nicks: 0. L 1.1; W 0.95; H 0.4cm. Wt 3.1g.

1:170 Silver circular ingot (MME: 1841,0711.195)
As **1:165**; but with a droplet on one side.
Nicks: 0. D 0.8 (0.95cm, with droplet); H 0.3cm. Wt 1.47g.

1:171 Silver ovoid ingot (MME: 1841,0711.196)
As **1:161**; but with droplets spattered on one main face.
Nicks: 6. L 1.0; W 0.85; H 0.25cm (0.3cm, with droplets). Wt 1.60g.

1:172 Silver ovoid ingot (MME: 1841,0711.197)
Ovoid (flattened, tapering) section; hammered on upper and lower faces.
Nicks: 1. L 1.0; W 0.9; H 0.3–0.2cm. Wt 1.31g.

1:173 Silver ovoid ingot (MME: 1841,0711.198)
As **1:161**.
Nicks: 11. L 1.05; W 0.9; H 0.3cm. Wt 1.91g.

1:174 Silver ovoid ingot (MME: 1841,0711.199)
Hammered flat, with hammered edge.
Nicks: 0. L 1.2; W 1.1; H 0.15cm. Wt 1.40g.

1:175 Silver ovoid ingot (MME: 1841,0711.200)
As **1:161**.
Nicks: 0. L 1.0; W 0.95; H 0.2cm. Wt 1.40g.

1:176 Silver circular ingot (MME: 1841,0711.201)
With irregular outline; hammered flat, with partially hammered edge.
Nicks: 2. D 1.05; H 0.2cm. Wt 1.49g.

1:177 Silver circular ingot (MME: 1841,0711.202)

As **1:165**.

Nicks: 0. D 0.85; H 0.25cm. Wt 1.22g.

1:178 Silver circular ingot (MME: 1841,0711.203)

Hammered almost flat, with partially hammered edge.

Nicks: 1. D 0.8; H 0.15cm. Wt 0.66g.

1:179 Silver circular ingot (MME: 1841,0711.204)

Hammered flat.

Nicks: 0. D 0.6; H 0.1cm. Wt 0.32g.

1:180 Silver circular ingot (MME: 1841,0711.205)

Lost, but described in the British Museum Register as: 'Silver oblong ingot circular, thicker [than no. 204 = **1:179**], bevelled edges, much hammered'. This is the same as no. 206 = **1:181**, which is described in the Register as 'ditto irregular'.

Nicks: ? Converted/calculated measurements: D 0.2**in** (= 0.5cm); H *c.* 0.2cm. Wt 6.5 grains (= 0.42g).

1:181 Silver ovoid ingot (MME: 1841,0711.206)

With irregular outline, of ovoid (flattened) section; hammered on upper and lower faces, with rough edges.

Nicks: 0. L 0.6; W 0.5; H 0.2cm. Wt 0.45g.

1:182 Silver circular ingot (MME: 1841,0711.207)

With irregular outline; hammered flat.

Nicks: 0. L 1.1; W 1.0; H 0.17cm. Wt 1.22g.

1:183 Silver circular ingot (MME: 1841,0711.208)

Hammered flat, but with rough edges.

Nicks: *c.* 9 (1 surface peck and *c.* 8 edge nicks). D 1.4; H 0.25cm. Wt 3.42g.

1:184 Silver ovoid ingot (MME: 1841,0711.209)

With irregular outline; hammered flat and around the edge.

Nicks: 0. L 1.4; W 1.1; H 0.25cm. Wt 3.00g.

Hawkins 1847, 112, fig. 6.

1:185 Silver ovoid ingot (MME: 1841,0711.210)

Hammered flat.

Nicks: 6. D 1.05; H 0.9cm. Wt 1.33g.

1:186 Silver ovoid ingot (MME: 1841,0711.211)

Tear-shaped; hammered flat, but slightly dimpled.

Nicks: 0. L 1.15; W 1.0; H 0.2cm. Wt 1.58g.

Hawkins 1847, 112, fig. 7.

1:187 Silver circular ingot (MME: 1841,0711.212)

Ovoid (flattened) section; hammered on upper and lower faces.

Nicks: 9 (3 edge nicks and a group of 6 pecks on one main face). D 1.0; H 0.3cm. Wt 1.71g.

Hawkins 1847, 112, fig. 8.

1:188 Silver ovoid ingot (MME: 1841,0711.213)

Ovoid (flattened) section; hammered on upper and lower faces.

Nicks: 9. L 1.1; W 0.85; H 0.4cm. Wt 2.67g.

1:189 Silver ovoid ingot (AC: 30)

Sub-rectangular section; pitted. Painted 'Duchy' weight.

Nicks: 2. L 1.8; W 0.9; H 0.6cm. Wt 5.84g.

1:190 Silver ovoid ingot (AC: 31)

Sub-rectangular section; hammered on both side faces, with pitted upper surface and some iron staining. Painted 'Duchy' weight.

Nicks: 4. L 1.34; W 0.84; H 0.44cm. Wt 3.29g.

1:191 Silver circular ingot (AC: 160)

Hammered flat.

Nicks: 0. D 0.7; H 0.2cm. Wt 0.61g.

Assheton collection: ex-Moore (Burton's, April 1848, lot 323; **Cat. Fig. 2**).

1:192 Silver ovoid ingot (LM: 53.114.63)

D-shaped section.

Nicks: 0. L 0.95; W 0.7; H 0.4cm. Wt 1.63g.

Nelson collection; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:193 Silver ovoid ingot (AM: 1909.533)

Sub-triangular section.

Nicks: 5. L 1.3; W 0.7; H 0.5cm. Wt 2.61g.

Evans collection; Macalister in Kruse and Tate 1992, 324–5 (see **Cat. Table 1**).

1:194 Silver circular ingot (AM: 1909.535)

Hammered flat.

Nicks: 0. D 1.1; H 0.4cm. Wt 3.39g.

Evans collection; Macalister in Kruse and Tate 1992, 324–5 (see **Cat. Table 1**).

1:195 Silver circular ingot (AM: 1909.536)

Hammered flat.

Nicks: *c.* 15 (multiple, around edge). D 1.1; H 0.4cm. Wt 2.89g.

Evans collection; Macalister in Kruse and Tate 1992, 324–5 (see **Cat. Table 1**).

1:196 Silver ovoid ingot (private possession)

With irregular outline and of irregular section; heavily pitted surface.

Nicks: ? (not examined). L *c.* 2.5; W *c.* 1.4; H *c.* 0.3–0.4cm. Wt 8.29g.

McCoy collection: ex-Pegg (Spink Coin Auctions, 11 October 1980, lot 15).

4. Oblong ingots, cut at one end (1:197–273)

The nature of the cut end is not described in each entry, if it takes the standard form of a single transverse cut (or cut and break) from one side only, with or without any associated hammering or surface flattening resulting from the impact of the blow; any preliminary markings or parallel cuts are, however, noted.

1:197 Silver oblong ingot terminal (MME: 1841,0711.103)

D-shaped section, with rounded end; pitted mould surface.

Nicks: 18. L 9.3; W 1.1; H 0.7cm. Wt 53.40g (drilled).

1:198 Silver oblong ingot terminal (MME: 1841,0711.104)

Trapezoidal section, tapering in height to rounded end.

Nicks: 11. L 7.4; W 1.2; H 1.15cm. Wt 68.63g (drilled).

1:199 Silver oblong ingot terminal (MME: 1841,0711.105)

Sub-triangular section, tapering to rounded end, with parallel cut across its base.

Nicks: 2 (a deeply cut pair, on opposite basal angles at opposite ends, from opposite directions). L 7.4; W 1.1; H 0.8cm. Wt 42.08g (drilled).

1:200 Silver oblong ingot terminal (MME: 1841,0711.106)

Variable section, from trapezoidal at the rounded (and thicker) end, which has a casting flaw, to D-shaped at the wider, cut end.

Nicks: 5. L 6.6; W x H (at ends) 0.7 x 0.9 and 0.8 x 0.6cm. Wt 31.21g.

1:201 Silver oblong ingot terminal (MME: 1841,0711.107)

Sub-triangular section, with rounded end.

Nicks: 22. L 6.3; W 0.8; H 0.7cm. Wt 23.99g.

1:202 Silver oblong ingot terminal (MME: 1841,0711.108)

With irregular (waisted) outline and of sub-triangular section, with rounded end, and pitted mould surface; cut with two blows from different directions, with two additional cut marks.

Nicks: 5. L 5.3; W 1.1; H 0.7cm. Wt 23.35g.

1:203 Silver oblong ingot terminal (MME: 1841,0711.109)

High trapezoidal section, with rounded end.

Nicks: *c.* 16. L 5.2; W 1.1; H 1.2cm. Wt 47.79g (drilled).

1:204 Silver oblong ingot terminal (MME: 1841,0711.110)

Sub-triangular section and of uneven thickness, with rounded end; faint cloth impression over upper surface (see p. 82), with some pitting.

Nicks: 6. L 4.7; W 1.1; H 0.95–0.7cm. Wt 28.20g (drilled).

1:205 Silver oblong ingot terminal (MME: 1841,0711.111)

Sub-triangular section, with rounded end; pitted mould surface.

Nicks: 2. L 4.6; W 1.15; H 0.9cm. Wt 30.25g (drilled).

1:206 Silver oblong ingot terminal (MME: 1841,0711.112)

Trapezoidal section, with sub-rectangular end, and parallel fine cut across top, from which the other end is cut (knife mark).

Nicks: 9. L 4.0; W 1.0; H 0.85cm. Wt 25.86g (drilled).

1:207 Silver oblong ingot terminal (MME: 1841,0711.113)
Trapezoidal section, slightly tapering to rounded terminal.
Nicks: 1. L 4.0; W 1.3; H 0.7cm. Wt 22.25g.

1:208 Silver oblong ingot terminal (MME: 1841,0711.114)
D-shaped section, with an expanded rounded end.
Nicks: 7. L 3.5; W 1.8; H 0.9cm. Wt 33.59g (drilled).

1:209 Silver oblong ingot terminal (MME: 1841,0711.115)
D-shaped section, with rounded end; some mould surface flaws.
Nicks: 6. L 4.0; W 1.55; H 0.8cm. Wt 30.83g (drilled).

1:210 Silver oblong ingot terminal (MME: 1841,0711.116)
D-shaped section, with slightly rounded/sub-rectangular end.
Nicks: 0. L 2.9; W 1.5; H 0.8cm. Wt 23.71g (drilled).

1:211 Silver oblong ingot terminal (MME: 1841,0711.117)
D-shaped section, with pointed end, but for half its present length, extending to the cut end, it has been hammered on all four sides to a near rectangular section.
Nicks: 6. L 6.3; W 1.3; H 1.1cm (hammered end: W 1.2; H 0.6cm). Wt 56.85g (drilled).

1:212 Silver oblong ingot terminal (MME: 1841,0711.118)
Bent, of D-shaped section, with rounded end; within the curve, it has almost been cut through a second time by a heavy blow that has left a concavity on the opposite face.
Nicks: 6. L 3.2; W 0.75; H 0.6cm. Wt 11.05g.

1:213 Silver oblong ingot terminal (MME: 1841,0711.119)
D-shaped section, modified to trapezoidal by hammering on its upper surface, with rounded end.
Nicks: 1. L 2.5; W 1.1; H 0.8cm. Wt 14.78g.

1:214 Silver oblong ingot terminal (MME: 1841,0711.120)
High sub-triangular section, with rounded end.
Nicks: 2. L 2.9; W 1.2; H 1.3cm. Wt 26.10g.

1:215 Silver oblong ingot terminal (MME: 1841,0711.121)
Octagonal section (sub-rectangular with hammered, faceted angles), with rounded end; there is a slightly flattened area on the upper surface at the cut end, perhaps resulting from three deep, oblique transverse cuts, one crossing the other two, on the lower face.
Nicks: 3. L 3.1; W 1.0; H 0.75cm. Wt 16.67g.

1:216 Silver oblong ingot terminal (MME: 1841,0711.122)
Trapezoidal section, with rounded end.
Nicks: 11. L 3.75; W 1.2; H 0.8cm. Wt 25.47g.

1:217 Silver oblong ingot terminal (MME: 1841,0711.123)
Hammered on all four sides to sub-rectangular section, with rounded end; cleanly cut from the upper face, but with remains of a parallel fine cut on the lower face (knife mark).
Nicks: 7. L 4.2; W 1.3; H 0.7cm. Wt 28.68g (drilled).

1:218 Silver oblong ingot terminal (MME: 1841,0711.124)
Octagonal section (sub-rectangular with faceted angles), being irregularly hammered on all faces, with rounded end.
Nicks: 16. L 3.2; W 0.9; H 0.6cm. Wt 12.94g.

1:219 Silver oblong ingot terminal (MME: 1841,0711.125)
D-shaped section, modified to trapezoidal by hammering on the upper surface, with rounded end.
Nicks: 14. L 2.3; W 1.0; H 0.9cm. Wt 13.87g.

1:220 Silver oblong ingot terminal (MME: 1841,0711.126)
Trapezoidal section, being hammered on the upper (pitted) and lower faces, with sub-rectangular end.
Nicks: 3. L 3.9; W 2.1; H 0.9cm. Wt 61.26g (drilled).

1:221 Silver oblong ingot terminal (MME: 1841,0711.127)
Trapezoidal section, tapering to sub-rectangular end, with battered upper face.
Nicks: 8. L 3.2; W 2.7; H 1.0cm. Wt 60.63g (drilled).

1:222 Silver oblong ingot terminal (MME: 1841,0711.128)
Trapezoidal section, with rounded end; pitted mould surface.
Nicks: 15. L 2.5; W 1.6; H 0.9cm. Wt 21.35g (drilled).

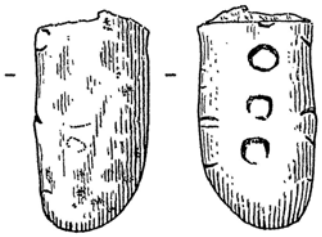
1:223 Silver oblong ingot terminal (MME: 1841,0711.129)
Ovoid (flattened) section, with rounded end; pitted mould surface.
Nicks: 4. L 1.3; W 1.3; H 0.7cm. Wt 6.76g.

1:224 Silver oblong ingot terminal (MME: 1841,0711.130)
Octagonal (faceted rectangular) section from being hammered, with sub-rectangular end.
Nicks: 10. L 1.3; W 0.9; H 0.5cm. Wt 4.36g.

1:225 Silver oblong ingot terminal (MME: 1841,0711.131)
Trapezoidal section, with rounded end; pitted mould surface.
Nicks: 12. L 1.3; W 1.1; H 0.8cm. Wt 8.19g.

1:226 Silver oblong ingot terminal (MME: 1841,0711.132)
Trapezoidal section, tapering to upcurved angular end, with pitted upper face, including one particularly large imperfection; there is a parallel cut across the lower face, although the ingot was cleanly cut from on top.
Nicks: 17. L 2.2; W 1.1; H 1.1cm. Wt 12.23g.

1:227 Silver oblong ingot terminal (MME: 1841,0711.133)
D-shaped section, with rounded end; single row of ring-stamping along lower face (**Cat. Fig. 7**), consisting of three impressions (two incompletely registered) and part of a fourth which has been cut through (**Fig. 8.3,3**).
Nicks: 12. L 1.8; W 1.0; H 0.65cm. Wt 7.34g.



Cat. Figure 7 Ingot terminal fragment (**1:227**), with ring-stamping

1:228 Silver oblong ingot terminal (MME: 1841,0711.140)
Rectangular section, with chamfered rectangular end, from hammering; parallel cut across severed end, beside which there is a deep cut into one side, with flattening opposite. It was mistakenly catalogued in the British Museum Register together with those having 'both ends cut', as illustrated here (**Pl. 16**).
Nicks: 20. L 3.6; W 1.2; H 0.6cm. Wt 19.60g.

1:229 Silver oblong ingot terminal (MME: 1841,0711.178)
Rectangular section, with sub-rectangular end, from hammering; cut with two diagonal strokes from the same face.
Nicks: 2. L 1.3; W 1.9; H 0.7cm. Wt 11.90g.

1:230 Silver oblong ingot terminal (MME: 1841,0711.179)
Rectangular section, with irregular sub-rectangular end, from hammering; there are cuts on the upper and lower surfaces, and the severed end is much cut about from both sides, at two angles.
Nicks: 2. L 1.5; W 1.45; H 0.6cm. Wt 7.89g.

1:231 Silver oblong ingot terminal (MME: 1841,0711.214)
D-shaped section, with rounded end.
Nicks: 4. L 0.9; W 0.8; H 0.5cm. Wt 2.09g.

1:232 Silver oblong ingot terminal (MME: 1841,0711.215)
Oval section, with rounded end.
Nicks: 6. L 0.8; W 0.8; H 0.5cm. Wt 1.36g.

1:233 Silver oblong ingot terminal (MME: 1841,0711.216)
Sub-triangular(?) section, with blunt pointed end.
Nicks: 0. L 0.9; W 0.9; H 0.7cm. Wt 2.41g.

1:234 Silver oblong ingot terminal (MME: 1841,0711.217)
Sub-rectangular section, with rounded end.
Nicks: 0. L 0.8; W 0.8; H 0.6cm. Wt 2.24g.

1:235 Silver oblong ingot terminal (MME: 1841,0711.218)
D-shaped section, with rounded end.
Nicks: 12. L 0.7; W 1.0; H 0.7cm. Wt 2.67g.

1:236 Silver oblong ingot terminal (MME: 1841,0711.219)
D-shaped section, with pointed end.
Nicks: 0. L 1.1; W 0.9; H 0.4cm. Wt 1.78g.

1:237 Silver oblong ingot terminal (MME: 1841,0711.220)
D-shaped section, with rounded end.
Nicks: 6. L 0.9; W 1.1; H 0.5cm. Wt 2.51g.

1:238 Silver oblong ingot terminal (MME: 1841,0711.221)
D-shaped section, with rounded end.
Nicks: 3. L 0.8; W 1.1; H 0.45cm. Wt 1.77g.

1:239 Silver oblong ingot terminal (MME: 1841,0711.222)
Oval section, with rounded end.
Nicks: 0. L 0.6; W 0.8; H 0.5cm. Wt 1.52g.

1:240 Silver oblong ingot terminal (MME: 1841,0711.223)
D-shaped section, with rounded end; deep parallel cut.
Nicks: 2. L 0.75; W 0.65; H 0.5cm. Wt 1.47g.

1:241 Silver oblong ingot terminal (MME: 1841,0711.224)
The rounded end of a thick ingot which has been bisected, as well as having been cut across.
Nicks: 9 (inc. 2 pecks on original surface). L 0.7; W 1.0; H 0.7cm. Wt 3.18g.

1:242 Silver oblong ingot terminal (MME: 1841,0711.226)
D-shaped section, with rounded end; light parallel cut.
Nicks: 1. L 0.5; W 0.7; H 0.45cm. Wt 1.24g.

1:243 Silver oblong ingot terminal (MME: 1841,0711.227)
Trapezoidal section, from being hammered on all four faces, tapering to rounded end (cf. **1:244**).
Nicks: 10. L 1.0; W 0.5; H 0.35cm. Wt 1.24g.

1:244 Silver oblong ingot terminal (MME: 1841,0711.228)
As **1:243**, but less tapered.
Nicks: 4. L 0.8; W 0.6; H 0.35cm. Wt 1.30g.

1:245 Silver oblong ingot terminal (MME: 1841,0711.229)
Half of a rounded terminal, cut twice at a right-angle from an ingot of D-shaped section; the original edge has some cracking and damage, but at least one nick.
Nicks: 1. L 0.6; W 0.5; H 0.45cm. Wt 0.94g.

1:246 Silver oblong ingot terminal (CM: 1906,113.2518)
High sub-triangular section, with rounded end; generally pitted surface, with a large flaw in one side.
Nicks: 2. L 4.2; W 0.9; H 1.1cm. Wt 25.73g.
Weber donation to the British Museum (1906): ex-Royal Mint, Duchy donation (?).

1:247 Silver oblong ingot terminal (CM: 1906,1103.2519)
High sub-triangular/trapezoidal section, deformed by having been cut through from one side, with rounded end.
Nicks: 15. L 3.5; W 0.7; H 0.9cm. Wt 14.23g.
Weber donation to the British Museum (1906): ex-Royal Mint, Duchy donation (?).

1:248 Silver oblong ingot terminal (CM: 1906,1103.2521)
Trapezoidal section, with rounded end; three parallel cuts across the lower face.
Nicks: 5. L 2.1; W 0.9; H 0.9cm. Wt 11.06g.
Weber donation to the British Museum (1906): ex-Royal Mint, Duchy donation (?).

1:249 Silver oblong ingot terminal (AC: 34)
Ovoid section, with rounded end; pitted surface.
Nicks: 4. L 0.96; W 0.45; H 0.3cm. Wt 0.64g.

1:250 Silver oblong ingot terminal (AC: 41)
D-shaped section, with rounded end; three parallel cuts across the upper face.
Nicks: 3. L 1.1; W 0.9; H 0.6cm. Wt 3.53g.

1:251 Silver oblong ingot terminal (AC: 45)
D-shaped section, with rounded end; pitted upper surface.
Nicks: 3. L 1.97; W 1.1; H 0.87cm. Wt 10.24g.

1:252 Silver oblong ingot terminal (AC: 46)
D-shaped section, with rounded end; rough lower face.
Nicks: 6. L 1.9; W 1.56; H 1.1cm. Wt 18.96g.

1:253 Silver oblong ingot terminal (AC: 56)
D-shaped section, with rounded end; pitted upper surface, but part flattened when cut through from the opposite face.
Nicks: 14. L 2.4; W 1.7; H 0.9cm. Wt 24.57g.

1:254 Silver oblong ingot terminal (AC: 58)
Sub-triangular section, with rounded end; pitted upper surfaces, but partly flattened ridge (cut through from lower face).
Nicks: 1. L 3.5; W 1.0; H 1.1cm. Wt 21.55g.

1:255 Silver oblong ingot terminal (AC: 59)
D-shaped section, with rounded end; pitted upper surface.
Nicks: 10. L 3.6; W 1.1; H 0.9cm. Wt 23.09g.

1:256 Silver oblong ingot terminal (AC: 60)
Ovoid section, with rounded end; pitted upper surface, with a small lump to one side (from the mould).
Nicks: 4. L 5.0; W 0.76; H 0.6cm. Wt 15.23g.

1:257 Silver oblong ingot terminal (AC: 61)
D-shaped section, tapering to a rounded end; pitted upper surface.
Nicks: 9. L 3.6; W 1.27; H 0.8cm. Wt 21.32g.

1:258 Silver oblong ingot terminal (AC: 66)
Flat ovoid section, with rounded end; very smooth mould surface, but heavily nicked.
Nicks: 24 (10 nicks along one side edge and 9 along the other, with 5 along the upper angle of the cut face). L 1.9; W 1.4; H 0.6cm. Wt 11.13g.

1:259 Silver oblong ingot terminal (AC: 75)
Rectangular section, hammered flat on all four faces, tapering to a rounded end; the main face from which the other end was severed has several, lightly cut, transverse lines, not all parallel.
Nicks: 4. L 3.3; W 0.9; H 0.6cm. Wt 12.04g.

1:260 Silver oblong ingot terminal (LM: 53.114.58)
D-shaped section, with rounded end; pitted upper surface.
Nicks: 13. L 6.9; W 1.4; H 1.1cm. Wt 74.64g.
Nelson collection: ex-Drabble (Glendining's, 14 December 1943, lot 1206), ex-Shaw (Sotheby's, 23 July 1924, lot 565) and ex-Richardson (Sotheby's, 2 February 1920, lot 171), by donation from Assheton; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:261 Silver oblong ingot terminal (LM: 53.114.37)
D-shaped section, although hammered on upper surface towards the cut end resulting in a more trapezoidal section, with rounded end; a small piece has been sheared off one side of the cut end.
Nicks: 2. L 5.5; W 1.3; H 1.15cm. Wt 52.17g.
Nelson collection: ex-Armitage (1952); Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:262 Silver oblong ingot terminal (LM: 53.114.50)
D-shaped section, with rounded end.
Nicks: 9. L 3.1; W 1.2; H 1.1cm. Wt 23.21g.
Nelson collection; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:263 Silver oblong ingot terminal (LM: 53.114.59)
Sub-triangular section, with rounded end.
Nicks: 8 (inc. an opposing pair cut deeply into opposite sides, from opposite directions). L 4.4; W 1.4 (1.5cm, inc. nicks); H 0.7cm. Wt 25.41g.
Nelson collection; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:264 Silver oblong ingot terminal (LM: 53.114.54)
Ovoid section, with rounded terminal.
Nicks: 0. L 1.2; W 1.2; H 0.5cm. Wt 4.50g.
Nelson collection: ex-Drabble (Glendining's, 14 December 1943, lot 1206), ex-Shaw (Sotheby's, 23 July 1924, lot 565) and ex-Richardson (Sotheby's, 2 February 1920, lot 171), by donation from Assheton; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:265 Silver oblong ingot terminal (LM: 53.114.55)
D-shaped section, with rounded end.
Nicks: 12. L 1.2; W 0.8; H 0.75cm. Wt 4.70g.
Nelson collection: ex-Drabble (Glendining's, 14 December 1943, lot 1206), ex-Shaw (Sotheby's, 23 July 1924, lot 565) and ex-Richardson (Sotheby's, 2 February 1920, lot 171), by donation from Assheton; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:266 Silver oblong ingot terminal (AM: 1909.526)

Trapezoidal section, with rounded end.

Nicks: 4. L 3.7; W 1.4; H 0.9cm. Wt 28.81g.

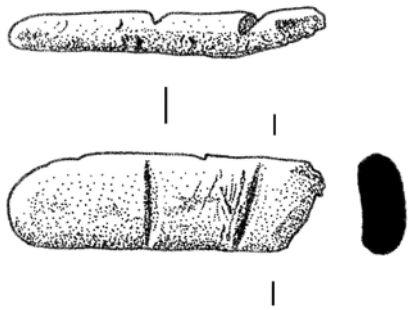
Evans collection; Macalister in Kruse and Tate 1992, 324–5 (see **Cat. Table 1**).

1:267 Silver oblong ingot terminal (AM: 1909.527)

Sub-rectangular section, with rounded end (**Cat. Fig. 8**); cut with two blows from different directions. There are two deep transverse cuts on the lower surface, as if for sub-division.

Nicks: 11. L 4.1; H 1.3; W 0.6cm. Wt 21.03g.

Evans collection; Macalister in Kruse and Tate 1992, 324–5 (see **Cat. Table 1**).



Cat. Figure 8 Ingot terminal fragment (**1:267**), with cuts and nicks (Ashmolean Museum)

1:268 Silver oblong ingot terminal (AM: 1909.532)

Octagonal (faceted rectangular) section, from hammering, with rounded end; two parallel cuts on the lower face, one deep and one shallow, across severed end.

Nicks: 3. L 3.6; W 0.8; H 0.5cm. Wt 10.72g.

Evans collection; Macalister in Kruse and Tate 1992, 324–5 (see **Cat. Table 1**).

1:269 Silver oblong ingot terminal (FM: 708.09)

D-shaped section, with rounded end. Painted 'Duchy' weight on reverse.

Nicks: 5. L 3.4; W 1.5; H 0.95cm. Wt 32.74g.

Duchy donation to the Cambridge Antiquarian Society (1844): transferred to the Fitzwilliam Museum.

1:270 Silver oblong ingot terminal (FM: 708.04)

D-shaped section, with rounded end.

Nicks: 0. L 2.9; W 1.2; H 0.8cm. Wt 16.60g.

Duchy donation to the Cambridge Antiquarian Society (1844): transferred to the Fitzwilliam Museum.

1:271 Silver oblong ingot terminal (FM: 708.02)

D-shaped section, with rounded end.

Nicks: 7. L 1.9; W 1.1; H 0.7cm. Wt 10.50g.

Duchy donation to the Cambridge Antiquarian Society (1844): transferred to the Fitzwilliam Museum.

1:272 Silver oblong ingot terminal (NMS: IM 25)

Ovoid section, with rounded end.

Nicks: 6. L 3.7; W 1.3; H 0.6cm. Wt 20.34g (drilled).

Donated to the Society of Antiquaries of Scotland by Andrew Wilson (1871); Kruse and Tate 1992, 320 (see **Cat. Table 1**).

1:273 Silver oblong ingot terminal (SAL: 885)

Trapezoidal section, distorted to ovoid at the severed end where it is cut from the lower face with corresponding flattening of the upper, tapering to rounded end. Painted 'Duchy' weight on reverse.

Nicks: 17. L 5.3; W 1.15; H 0.7cm. Wt 46.35g.

Donated to the Society of Antiquaries of London by Sir John Evans.

5. Oblong ingots, cut at both ends (1:274–361)

Standard cutting of the severed ends is not described in each entry (as above).

1:274 Silver oblong ingot fragment (MME: 1841,0711.94)

Octagonal (faceted rectangular) section, being hammered on all sides, tapering to both ends; it was severed so cleanly from the same direction at both ends, with single blows, that it was catalogued in the British Museum Register amongst a group of complete hammered ingots, as illustrated here (**Pl. 71**). It appears to have been nicked both before and after hammering, so that it is not now possible to determine the total number of nicks with certainty.

Nicks: *c.* 10. L 5.6; W 0.85–0.7; H 0.65–0.5cm. Wt 24.73g.

1:275 Silver oblong ingot fragment (MME: 1841,0711.134)

Ovoid section, tapering to one end; severed from opposite directions, with parallel cut across the narrower end.

Nicks: 3. L 3.9; W 1.3–1.0; H 0.7cm. Wt 25.22g (drilled).

1:276 Silver oblong ingot fragment (MME: 1841,0711.135)

D-shaped section, with a large pit in the upper surface.

Nicks: 4. L 4.0; W 1.3; H 0.75cm. Wt 26.12g.

1:277 Silver oblong ingot fragment (MME: 1841,0711.136)

D-shaped section, severed from opposite directions.

Nicks: 4. L 2.3; W 1.35; H 0.9cm. Wt 21.57g.

1:278 Silver oblong ingot fragment (MME: 1841,0711.137)

Sub-triangular section, severed at both ends from on top with corresponding (triangular) flattened areas below; these have been outlined with a lightly incised diagonal cross.

Nicks: 5. L 3.3; W 1.5; H 0.9cm. Wt 27.49g.

1:279 Silver oblong ingot fragment (MME: 1841,0711.138)

Sub-triangular section, severed from opposite directions, with a large pit in the upper surface.

Nicks: 6. L 3.5; W 1.2; H 1.15cm. Wt 32.93g.

1:280 Silver oblong ingot fragment (MME: 1841,0711.139)

Sub-rectangular section, severed from same direction.

Nicks: 6. L 3.4; W 1.3; H 0.9cm. Wt 30.44g (drilled).

1:281 Silver oblong ingot fragment (MME: 1841,0711.141)

Wedge-shaped, with one severed end of trapezoidal section and the other D-shaped; the latter is cut and broken from the top, with a parallel cut across the upper surface, whereas the former is cut and broken from the side, but along a line cut on the lower face which also has a pair of oblique parallel lines cut across its centre. On the upper surface, a cross was lightly incised before the ingot was severed, cut firstly across and then longitudinally, so as to divide it into four (although this division was not subsequently utilised). There are pairs of nicks on both lower angles, seemingly contemporary as both are situated close together at the same end (both of these consist of a deeper nick in front of a shallower one, and they were cut from opposite directions, as would happen if the ingot had been turned in the hand during testing); there are also two nicks on both upper angles (one deep and one slight).

Nicks: 8. L 3.05; W 1.8–1.1; H 1.85–0.8cm. Wt 45.81g (drilled).

1:282 Silver oblong ingot fragment (MME: 1841,0711.142)

Sub-rectangular section, hammered on all four sides, severed from same direction.

Nicks: 2. L 2.2; W 2.0; H 0.8cm. Wt 22.78g.

1:283 Silver oblong ingot fragment (MME: 1841,0711.143)

D-shaped section, with a large pit in the upper surface, severed from same direction.

Nicks: 10. L 4.2; W 1.2; H 1.0cm. Wt 36.96g (drilled).

1:284 Silver oblong ingot fragment (MME: 1841,0711.144)

D-shaped section, with a large flange in the form of a triangular projection to one side of one severed end, resulting from mould overflow.

Nicks: 9. L 4.4; W 0.8 (2.5cm, inc. flange); H 0.6cm. Wt 23.39g.

1:285 Silver oblong ingot fragment (MME: 1841,0711.145)

D-shaped section, severed from same direction.

Nicks: 7. L 1.4; W 0.9; H 0.8cm. Wt 5.84g.

1:286 Silver oblong ingot fragment (MME: 1841,0711.146)

D-shaped section, curving to upturned ends severed from the same direction (top).

Nicks: 11. L 2.3; W 0.8; H 0.7cm. Wt 9.02g.

1:287 Silver oblong ingot fragment (MME: 1841,0711.147)

Trapezoidal section, tapering slightly to one end, severed from opposite directions; casting flaws on lower surface.

Nicks: 6. L 3.3; W 0.8–0.7; H 0.5cm. Wt 8.51g.

1:288 Silver oblong ingot fragment (MME: 1841,0711.148)
Trapezoidal section, severed from the same direction; there is a large pit in the upper surface.
Nicks: 2. L 3.6; W 1.6; H 1.05cm. Wt 44.70g.

1:289 Silver oblong ingot fragment (MME: 1841,0711.149)
D-shaped section, but with flattening of the upper surface as severed at both ends from the bottom, one with three cuts; heavily nicked.
Nicks: 19. L 3.0; W 1.8; H 1.0cm. Wt 34.22g (drilled).

1:290 Silver oblong ingot fragment (MME: 1841,0711.150)
D-shaped section, severed from opposite directions.
Nicks: 9. L 2.3; W 1.3; H 1.1cm. Wt 21.90g.

1:291 Silver oblong ingot fragment (MME: 1841,0711.151)
Trapezoidal section, as hammered on top, with a slice off one end, severed from same direction (bottom); smooth upper surfaces (cf. **1:48**).
Nicks: 1. L 2.0; W 1.6; H 1.2cm. Wt 23.79g.

1:292 Silver oblong ingot fragment (MME: 1841,0711.152)
D-shaped section, severed from same direction (top), with parallel cut across one end.
Nicks: 2. L 1.9; W 1.4; H 1.0cm. Wt 18.23g.

1:293 Silver oblong ingot fragment (MME: 1841,0711.153)
Trapezoidal section, with flange along one side from mould overflow; severed at one end from both top and bottom, but at the other from only on top.
Nicks: 3. L 2.0; W 1.5 (2.1cm, inc. flange); H 1.3cm. Wt 26.15g.

1:294 Silver oblong ingot fragment (MME: 1841,0711.154)
A thin slice cut from an ingot of trapezoidal section (side view on **Pl. 16**). One end was severed by two downward strokes, creating a ledge-like offset, which is nicked; there is a peck-like nick on the other cut face.
Nicks: 2. L 0.9; W 2.1; H 1.2cm. Wt 10.08g.

1:295 Silver oblong ingot fragment (MME: 1841,0711.155)
D-shaped section, severed from opposite directions.
Nicks: 9. L 1.2; W 1.2; H 0.9cm. Wt 6.83g.

1:296 Silver oblong ingot fragment (MME: 1841,0711.156)
Sub-triangular or D-shaped section, but severed longitudinally as well as at both ends; heavily nicked (mostly on the cut angles).
Nicks: 19. L 0.8; W 1.1; H 0.9cm. Wt 7.94g.

1:297 Silver oblong ingot fragment (MME: 1841,0711.157)
Sub-triangular section, severed from the same direction (top); very heavily nicked for its size.
Nicks: 22. L 1.4; W 1.1; H 0.9cm. Wt 7.94g.

1:298 Silver oblong ingot fragment (MME: 1841,0711.158)
Sub-triangular or D-shaped section, but the upper face of the fragment has been completely flattened as a result of it having been severed at both ends from the underside.
Nicks: 3. L 1.0; W 1.0; H 0.8cm. Wt 6.88g.

1:299 Silver oblong ingot fragment (MME: 1841,0711.159)
D-shaped section, severed at both ends from the same direction (top).
Nicks: 2 (1 on both cut edges). L 0.7; W 1.0; H 0.8cm. Wt 2.90g.

1:300 Silver oblong ingot fragment (MME: 1841,0711.160)
Sub-triangular section, severed from opposite directions.
Nicks: 3. L 0.8; W 1.0; H 0.8cm. Wt 3.29g.

1:301 Silver oblong ingot fragment (MME: 1841,0711.161)
D-shaped section, severed at both ends from the top, with a parallel cut across one end of the upper surface.
Nicks: 2. L 0.5; W 0.9; H 0.7cm. Wt 1.49g.

1:302 Silver oblong ingot fragment (MME: 1841,0711.162)
A thin slice cut from an ingot of sub-triangular section (oblique view on **Pl. 15**), severed at both ends from the top.
Nicks: 3 (on cut edges). L 0.5; W 1.1; H 0.8cm. Wt 1.84g.

1:303 Silver oblong ingot fragment (MME: 1841,0711.163)
Trapezoidal section, severed at both ends from the top; cut to form a square (as **1:306**).
Nicks: 6. L 1.3; W 1.3; H 0.7cm. Wt 7.82g.

1:304 Silver oblong ingot fragment (MME: 1841,0711.164)
D-shaped section, severed at both ends from the top, with parallel cut across one end of the upper surface; cut to form a square of the same size, and approximate weight, as **1:305**.
Nicks: 2. L 1.3; W 1.3; H 0.7cm. Wt 7.52g.

1:305 Silver oblong ingot fragment (MME: 1841,0711.165)
D-shaped section, severed from opposite directions (cf. **1:304**).
Nicks: 3. L 1.5; W 1.0; H 0.6cm. Wt 6.01g.

1:306 Silver oblong ingot fragment (MME: 1841,0711.166)
D-shaped section, severed from opposite directions (cf. **1:303**).
Nicks: *c.* 13 (inc. a group of *c.* 10 multiple pecks on the lower face). L 1.5; W 0.7; H 0.55cm. Wt 4.13g.

1:307 Silver oblong ingot fragment (MME: 1841,0711.167)
D-shaped section, curving to upturned ends, both severed from the top.
Nicks: 0. L 1.5; W 1.0; H 0.6cm. Wt 5.79g.

1:308 Silver oblong ingot fragment (MME: 1841,0711.168)
Irregular (trapezoidal) polygonal section, with a protuberance on one side, from the mould.
Nicks: 7. L 1.0; W 1.0; H 0.7cm. Wt 4.43g.

1:309 Silver oblong ingot fragment (MME: 1841,0711.169)
Sub-rectangular section, although distorted at one end which is severed both from top and bottom, but at the other only from the bottom, with parallel cuts across the lower face.
Nicks: *c.* 9 (inc. a group of *c.* 6 multiple pecks on the upper face). L 1.0; W 1.0; H 0.7cm. Wt 3.92g.

1:310 Silver oblong ingot fragment (MME: 1841,0711.170)
D-shaped section(?), distorted by flattening, the result of its ends being severed from opposite directions.
Nicks: 2. L 1.0; W 1.1; H 0.7cm. Wt 3.20g.

1:311 Silver oblong ingot fragment (MME: 1841,0711.171)
Sub-triangular (lop-sided) section, severed from opposite directions.
Nicks: 4. L 1.5; W 0.9; H 0.7cm. Wt 5.71g.

1:312 Silver oblong ingot fragment (MME: 1841,0711.172)
D-shaped section, severed at both ends from both top and bottom, with three deep and five light parallel cuts across the upper surface.
Nicks: 2. L 1.2; W 0.8; H 0.7cm. Wt 3.90g.

1:313 Silver oblong ingot fragment (MME: 1841,0711.173)
D-shaped section, severed at both ends from the top.
Nicks: 2. L 0.7; W 1.0; H 0.6cm. Wt 2.60g.

1:314 Silver oblong ingot fragment (MME: 1841,0711.174)
D-shaped section, severed at both ends from the top.
Nicks: 3 (2 on the cut angle of one end, with a peck on the same face). L 0.7; W 1.1; H 0.7cm. Wt 2.89g.

1:315 Silver oblong ingot fragment (MME: 1841,0711.176)
D-shaped section, severed longitudinally (with parallel cut on upper surface), as well as at both ends, from the top; the lower face is completely flattened, presumably as a result of the three blows, although it could well have been hammered.
Nicks: 0. L 1.7; W 1.0; H 0.8cm. Wt 8.26g.

1:316 Silver oblong ingot fragment (MME: 1841,0711.177)
Sub-rectangular section, severed longitudinally as well as at both ends from the top, with a central cross scratched across one cut end; the lower face is completely flattened, presumably as a result of the three blows, although it could well have been hammered.
Nicks: 5 (on cut ends). L 1.1; W 1.0; H 0.8cm. Wt 5.23g.

1:317 Silver oblong ingot fragment (MME: 1841,0711.180)
D-shaped section, severed longitudinally from on top, but from opposite directions at the ends.
Nicks: 3. L 1.1; W 1.0; H 0.7cm. Wt 4.03g.

1:318 Silver oblong ingot fragment (MME: 1841,0711.181)
Irregular shape, cut from the edge of an ingot of indeterminate section.
Nicks: 0. L 1.1; W 1.0; H 0.8cm. Wt 2.61g.

1:319 Silver oblong ingot fragment (MME: 1841,0711.182)
As **1:320**.
Nicks: 1 (on cut angle). L 0.8; W 1.0; H 0.5cm. Wt 2.06g.

1:320 Silver oblong ingot fragment (MME: 1841,0711.183)
As **1:319**.
Nicks: 3. L 1.5; W 0.6; H 0.7cm. Wt 3.21g.

1:321 Silver oblong ingot fragment (MME: 1841,0711.184)
Triangular wedge-shaped fragment, cut from the edge of an ingot of indeterminate section.
Nicks: 0. L 0.7; W 0.7; H 0.7cm. Wt 1.27g.

1:322 Silver oblong ingot fragment (MME: 1841,0711.401)
Ovoid/sub-rectangular section, from being hammered on both upper and lower faces.
Nicks: 0. L 1.7; W 0.8; H 0.3cm. Wt 3.46g.

1:323 Silver oblong ingot fragment (MME: 1841,0711.445)
Wedge-shaped, with one rough cast face suggesting that it was cut from an ingot of indeterminate section.
Nicks: 0. L 1.1 x 0.8 x 0.5cm. Wt 1.67g.

1:324 Silver oblong ingot fragment (MME: 1841,0711.446)
Sub-rectangular and of irregular section, cut from a hammered object of indeterminate form, but casting flaws and cracked surfaces suggest that this was an ingot.
Nicks: 0. L 1.0 x 0.6; H 0.5cm. Wt 1.38g.

1:325 Silver oblong ingot fragment (MME: 1841,0711.447)
Sub-rectangular, cut from an ingot of probable D-shaped section, but only in height would it appear to retain its original form.
Nicks: 0. L 0.9 x 0.6; H 0.4cm. Wt 0.73g.

1:326 Silver oblong ingot fragment (MME: 1841,0711.424)
Wedge-shaped, cut from an ingot of indeterminate section by means of two oblique strokes.
Nicks: 0. L 0.9 x 0.3cm. Wt 0.63g.

1:327 Silver oblong ingot fragment (MME: 1841,0711.535)
Thin slice cut from an ingot of polygonal section, with six irregular hammered sides and an unworked main face (base); severed at both ends from the top.
Nicks: 1. L 0.5; W 1.2; H 0.85cm. Wt 3.14g.

1:328 Silver oblong ingot fragment (CM: 1906,1103.2520)
D-shaped section, severed at both ends from the top.
Nicks: 8. L 1.2; W 1.4; H 0.8cm. Wt 8.78g.
Weber donation to the British Museum (1906): ex-Royal Mint, Duchy donation (?).

1:329 Silver oblong ingot fragment (AC: 37)
D-shaped section, severed at both ends from the top, with flattened lower surface, perhaps hammered; smooth upper face.
Nicks: 1. L 0.6; W 1.1; H 0.43cm. Wt 1.70g.

1:330 Silver oblong ingot fragment (AC: 38)
Irregular cube of sub-rectangular section, seemingly hammered on one face; severed on four sides, probably from an ingot.
Nicks: 4. L 0.7 x 0.7 x 0.5cm. Wt 1.77g.

1:331 Silver oblong ingot fragment (AC: 39)
D-shaped section, severed at both ends from on top.
Nicks: 1. L 0.8; W 1.1; H 0.5cm. Wt 3.01g.

1:332 Silver oblong ingot fragment (AC: 40)
Irregular (sub-triangular) lump, severed on two faces presumably from an ingot; with surface cuts and cracks.
Nicks: 1. L 1.1 x 0.9 x 0.8cm. Wt 2.55g.

1:333 Silver oblong ingot fragment (AC: 42)
Ovoid section, with flattening (?hammering) on both upper and lower surfaces, but severed from opposite directions, with two parallel cuts across one end and one across the other.
Nicks: 3. L 1.3; W 1.7; H 0.7cm. Wt 10.95g.

1:334 Silver oblong ingot fragment (AC: 43)
Sub-rectangular section, with flattening (?hammering) on the lower face, but severed at both ends from on top, with a parallel cut across one of them.
Nicks: 5. L 1.7; W 1.2; H 1.0cm. Wt 13.35g.

1:335 Silver oblong ingot fragment (AC: 44)
Ovoid section, but flattened on the upper face as severed at both ends from the underside, with a parallel cut across one of them; multiple nicking along both sides.
Nicks: *c.* 17. L 2.1; W 1.5; H 0.7cm. Wt 14.11g.

1:336 Silver oblong ingot fragment (AC: 47)
Wedge-shaped, severed on two faces and flattened or hammered on another; presumably cut from the edge of an ingot of indeterminate section.
Nicks: 3. L 1.1 x 1.1 x 0.6cm. Wt 1.65g.

1:337 Silver oblong ingot fragment (AC: 48)
Thin slice cut from the edge of an ingot of ovoid or D-shaped section, which has been severed longitudinally; smooth upper face, but damaged below.
Nicks: 0. L 0.5; W 1.1; H 0.6cm. Wt 1.65g.

1:338 Silver oblong ingot fragment (AC: 49)
Sub-rectangular section, severed at both ends from the underside so that both ends of the upper face are flattened; heavily nicked (on all four main angles).
Nicks: *c.* 19. L 1.9; W 1.14; H 1.1cm. Wt 17.37g.

1:339 Silver oblong ingot fragment (AC: 50)
D-shaped section, roughly hammered on top, although there is some flattening as a result of its having been severed from opposite directions.
Nicks: 7. L 1.8; W 1.3; H 0.6cm. Wt 8.75g.

1:340 Silver oblong ingot fragment (AC: 51)
Sub-rectangular section, as hammered smooth on the upper and lower faces, severed from opposite directions; the upper face has a deep transverse cut, at an angle to one edge, adjacent to a central, lightly cut cross, whilst the lower face has one long and one short transverse cut. There is multiple nicking on all four main angles, with additional nicks on the severed ends.
Nicks: 21. L 1.5; W 1.4; H 0.9cm. Wt 12.66g.

1:341 Silver oblong ingot fragment (AC: 52)
Trapezoidal section, as roughly hammered or flattened on both upper and lower faces, severed from opposite directions, with three oblique strokes at one end; there are traces of a transverse cut across the lower face.
Nicks: 1. L 1.5; W 1.5; H 0.9cm. Wt 12.81g.

1:342 Silver oblong ingot fragment (AC: 53)
D-shaped section, severed from opposite directions, with flattening on the upper face; the lower surface is very rough, with two parallel and one oblique cuts across the end severed from the underside.
Nicks: 6. L 1.4; W 1.5; H 1.2cm. Wt 18.40g.

1:343 Silver oblong ingot fragment (AC: 54)
D-shaped section, hammered on upper and lower faces, severed at both ends from on top.
Nicks: 7. L 1.6; 1.8; H 1.1cm. Wt 21.00g.

1:344 Silver oblong ingot fragment (AC: 55)
D-shaped section, severed at both ends from both top and bottom, with flattening, but also hammered on the upper face, with a pair of parallel cuts across one end.
Nicks: 10. L 1.8; W 1.4; H 0.9cm. Wt 16.05g.

1:345 Silver oblong ingot fragment (AC: 57)
Ovoid section, with some flattening on both the upper and lower surfaces, as severed from opposite directions.
Nicks: 16. L 2.5; W 1.2; H 0.7cm. Wt 13.26g.

1:346 Silver oblong ingot fragment (AC: 62)
Tapered, of sub-triangular section, severed from opposite directions, with two parallel cuts at the narrow end.
Nicks: 9. L 3.16; W 1.5; H 1.1cm. Wt 25.86g.

1:347 Silver oblong ingot fragment (AC: 63)
Sub-triangular/ovoid section, severed from opposite directions with flattening to one end of the upper face; very heavily nicked, including multiple nicking along both main angles.
Nicks: 25. L 2.6; W 1.3; H 0.9cm. Wt 18.97g.

1:348 Silver oblong ingot fragment (AC: 64)
Sub-rectangular/ovoid section, curving to upturned ends, both severed from the same side, which has three parallel cuts; heavily pitted upper surface.
Nicks: 1. L 2.4; W 1.1; H 0.8cm. Wt 13.38g.

1:349 Silver oblong ingot fragment (AC: 67)

Sub-rectangular section, mostly flattened on the upper face as severed at both ends from the underside.

Nicks: 16. L 1.9; W 1.76; H 1.26cm. Wt 30.84g.

Assheton collection: ex-Moore (Burton's, April 1848, lot 323; **Cat. Fig. 2**).

1:350 Silver oblong ingot fragment (LM: 53.114.53)

Trapezoidal section, severed from opposite directions, with a clear cloth impression on both sides, but only traces remain on the upper face because it has been hammered, with a deep transverse cut across it; a small lump projects from one side, from the mould.

Nicks: 11. L 1.5; W 1.6; H 1.0cm. Wt 14.14g.

Nelson collection; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:351 Silver oblong ingot fragment (LM: 53.114.52)

Sub-rectangular section, severed at one end from on top and at the other from one side.

Nicks: *c.* 5. L 1.7; W 1.0; H 0.6cm. Wt 7.76g.

Nelson collection; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:352 Silver oblong ingot fragment (LM: 53.114.56)

Trapezoidal section, with flattening (?hammering) on top, severed at both ends from the underside, with a transverse cut.

Nicks: 2. L 0.8; W 1.1; H 0.7cm. Wt 3.20g.

Nelson collection: ex-Drabble (Glendining's, 14 December 1943, lot 1206), ex-Shaw (Sotheby's, 23 July 1924, lot 565) and ex-Richardson (Sotheby's, 2 February 1920, lot 171), by donation from Assheton; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:353 Silver oblong ingot fragment (LM: 53.114.33)

Sub-rectangular section, severed at both ends from the top (one with two strokes), with some flattening and a cracked corner on the lower face.

Nicks: 3. L 2.05; W 1.4; H 0.6cm. Wt 11.61g.

Nelson collection; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:354 Silver oblong ingot fragment (LM: 53.114.51)

D-shaped section, but part flattened on its upper surface to trapezoidal; it is severed longitudinally from the underside and at the ends from opposite directions, with the lower face having a deep parallel cut. A small piece has been sliced off the top angle of the cut side, most probably whilst attempting a nick. Painted 'Duchy' weight.

Nicks: 6. L 1.5; W 1.5; H 1.0cm. Wt 15.33g.

Nelson collection; Kruse and Tate 1992, 304–15, 320 (see **Cat. Table 1**).

1:355 Silver oblong ingot fragment (AM: 1909.529)

Sub-rectangular section, hammered on three faces with the upper surface left rough; it is severed at both ends from the slightly concave lower surface which has two oblique, crossing cuts.

Nicks: 5. L 1.2; W 2.2; H 0.7cm. Wt 13.63g.

Evans collection; Macalister in Kruse and Tate 1992, 324–5 (see **Cat. Table 1**).

1:356 Silver oblong ingot fragment (AM: 1909.537)

Sub-triangular section, severed at both ends from on top, at one end with two strokes, the whole being bent to a slight curve; there is a deep cut into one side, and it is heavily nicked for its size.

Nicks: 16. L 1.5; W 0.9; H 1.1cm. Wt 9.64g.

Evans collection; Macalister in Kruse and Tate 1992, 324–5 (see **Cat. Table 1**).

1:357 Silver oblong ingot fragment (FM: 708.05)

Trapezoidal section, severed at both ends from the underside, with the remains of a flange, which has been cut away, along part of one side.

Nicks: 8. L 2.2; W 1.4 (1.5cm, inc. flange remnant); H 0.9cm. Wt 18.01g.

Duchy donation to the Cambridge Antiquarian Society (1844): transferred to the Fitzwilliam Museum.

Cat. Table 1 Silver analyses of Cuerdale ingots (from Kruse and Tate 1992)

Cat. no.	Cu	Zn	Au	Pb	Bi	Ag	Sn	Au per 100 Ag	'silver'	Total
1:2	6.4	0.2	0.5	0.7	0.1	92.1	tr	0.51	93.2	99.8
1:3	6.2	0.3	0.6	0.8	nd	91.8	0.3	0.63	93.1	100.0
1:4	6.9	0.4	0.7	0.9	nd	90.9	0.3	0.73	92.4	100.0
1:5	5.8	0.1	0.7	0.8	nd	92.4	tr	0.76	93.9	99.8
1:8	5.6	0.0	0.5	2.1	0.0	91.8	0.0	0.6	94.4	100.0*
1:118	5.8	0.1	0.5	0.5	nd	92.9	tr	0.55	93.9	99.8
1:119	3.7	0.1	0.5	0.4	nd	95.1	tr	0.54	96.0	99.8
1:120	3.9	0.1	0.6	0.4	nd	94.8	tr	0.59	95.8	99.8
1:121	4.5	nd	0.4	0.4	0.1	94.5	tr	0.37	95.2	99.8
1:122	1.5	nd	0.7	0.1	nd	97.6	tr	0.68	98.3	99.8
1:123	5.9	0.1	0.3	1.0	nd	92.5	tr	0.37	93.8	99.8
1:124	3.0	0.1	0.9	0.4	nd	95.4	0.3	0.90	96.6	100.0
1:125	3.0	0.0	0.8	0.8	0.0	95.5	0.0	0.8	97.1	100.0*
1:126	3.0	0.0	0.9	0.0	0.0	96.2	<0.4	0.9	97.0	100.0*
1:127	0.8	0.0	0.9	1.1	0.0	97.1	0.0	0.9	99.2	100.0*
1:128	2.4	0.0	<0.1	<0.1	0.0	97.6	<0.4	0.1	94.2	100.0*
1:129	3.0	<0.25	0.9	1.0	0.0	95.2	0.0	0.9	95.2	100.0*
1:130	5.1	<0.25	0.6	0.8	0.0	93.6	0.0	0.7	95.0	100.0*
1:136	3.1	nd	0.6	0.3	nd	95.8	tr	0.64	96.7	99.8
1:192	1.7	nd	0.7	nd	nd	97.4	tr	0.71	98.1	99.8
1:193	6.5	0.7	0.9	0.5	0.0	91.4	<0.4	0.9	92.8	100.0*
1:194	5.7	<0.25	0.6	2.7	0.0	90.0	0.9	0.7	93.4	100.0*
1:195	2.5	0.7	0.9	2.4	0.0	92.9	0.6	0.9	96.3	100.0*
1:260	3.4	0.1	0.4	0.7	nd	95.2	tr	0.45	96.3	99.8
1:261	3.9	0.1	0.6	0.4	nd	94.8	tr	0.59	95.8	99.8
1:262	3.5	nd	0.8	nd	nd	95.6	tr	0.78	96.3	99.8
1:263	3.5	nd	0.7	0.1	nd	95.5	tr	0.76	96.3	99.8
1:264	2.2	0.1	0.4	0.6	0.1	96.6	tr	0.36	97.5	99.8
1:265	2.9	0.1	0.3	0.5	0.1	96.0	tr	0.32	96.8	99.9
1:266	1.3	tr	0.9	1.6	0.0	96.2	<0.4	0.9	98.7	100.0*
1:267	3.5	<0.25	0.5	0.7	tr	95.3	<0.4	0.5	96.5	100.0*
1:268	1.9	0.0	0.9	<0.1	tr	97.2	0.0	0.9	98.2	100.0*
1:272	4.7	0.2	0.5	0.6	nd	93.9	tr	0.50	95.0	99.9
1:350	4.0	0.1	0.4	0.7	nd	94.6	tr	0.42	95.7	99.8
1:351	4.0	0.1	0.5	0.5	0.1	94.7	tr	0.57	95.8	99.8
1:352	4.6	0.1	0.2	0.9	0.1	94.0	tr	0.22	95.1	99.8
1:353	4.0	0.1	0.2	0.5	0.1	95.1	tr	0.17	95.8	99.8
1:354	3.4	nd	0.8	0.4	nd	95.1	tr	0.85	96.4	99.8
1:355	4.5	<0.25	0.7	0.8	0.0	94.0	0.0	0.7	95.5	100.0*
1:356	4.7	0.3	1.2	1.1	0.0	93.0	<0.4	1.2	95.3	100.3*
1:361	2.1	0.2	0.6	0.9	nd	96.1	tr	0.61	97.5	99.8

Key: Elements tested for: Cu (copper); Zn (zinc); Au (gold); Pb (lead); Bi (bismuth); Ag (silver); and Sn (tin). All amounts are percentages. nd = not detected. tr = trace. * = Macalister in Kruse and Tate 1992, 324–5 (Ashmolean Museum).

1:358 Silver oblong ingot fragment (FM: 708.08)

Trapezoidal section, severed from opposite directions.

Nicks: 4. L 2.0; W 1.7; H 1.3cm. Wt 26.93g.

Duchy donation to the Cambridge Antiquarian Society (1844): transferred to the Fitzwilliam Museum.

1:359 Silver oblong ingot fragment (FM: 708.03)

Sub-triangular or D-shaped section, but severed longitudinally (with two oblique strokes) from the underside and at both ends from on top.

Nicks: 1. L 1.8; W 1.8; H 0.7cm. Wt 13.63g.

Duchy donation to the Cambridge Antiquarian Society (1844): transferred to the Fitzwilliam Museum.

1:360 Silver oblong ingot fragment (FM: 708.01)

Trapezoidal section, severed at both ends from the underside, from a tapered ingot; fine upper surface.

Nicks: 11 (inc. two groups of 4 each). L 1.3; W 1.2–1.0; H 0.7cm. Wt 6.54g.

Duchy donation to the Cambridge Antiquarian Society (1844): transferred to the Fitzwilliam Museum.

1:361 Silver oblong ingot fragment (NMS: IM 26)

Ovoid/D-shaped section, but now trapezoidal from flattening of upper surface, as severed at both ends from the underside, which has obliterated the cloth impression that is clearly present on its sides.

Nicks: 4. L 1.8; W 1.9; H 1.0cm. Wt 23.24g (drilled).

Donated to the Society of Antiquaries of Scotland by Andrew Wilson (1871); Kruse and Tate 1992, 320 (see **Cat. Table 1**).

6. Ovoid/circular, cut ingots (1:362–3)

1:362 Silver circular ingot fragment (MME: 1841,0711.186)

Approximately one quarter of a discoidal ingot of irregular circumference (original D *c.* 6.2cm), severed on two sides at a right angle. The fragment has a wedge-shaped section, indicating that the ingot was twice as thick at its centre as at its edge; the surface is hammered, but rough.

Nicks: 3. L (cut edges) 3.1 x 3.0; H 0.6–0.3cm. Wt 29.35g.

1:363 Silver ovoid ingot terminal fragment (MME: 1841,0711.225)

Approximately half of an ovoid disc, hammered flat.

Nicks: 2. L 0.7; W 0.7; H 0.35cm. Wt 0.83g.

Casting waste (1:364–9)

1:364 Silver casting waste (MME: 1841,0711.696a)

A small drop of waste silver (**Pl. 17**).

Nicks: 0. L 0.4cm. Wt 0.27g.

1:365 Silver casting waste (AC: 32)

An amorphous lump; this has been nicked twice and thus circulated as hack-silver (**Pl. 17**).

Nicks: 2. L 2.6; H 1.0cm. Wt 20.62g.

1:366 Silver casting waste (AC: 33)

As **1:367**, but smaller (**Pl. 17**); it has been nicked (as **1:365**).

Nicks: 2. L 2.0; H 0.7cm. Wt 8.99g.

1:367 Silver casting waste (AC: 76)

A small lump (cf. **1:366**; **Pl. 17**).

Nicks: 0. L 1.6; H 0.8cm. Wt 3.90g.

1:368 Silver casting waste (AC: 159)

An irregular flat fragment (**Pl. 17**).

Nicks: 0. L 1.3; H 0.13cm. Wt 0.47g.

1:369 Silver casting waste (AM: 1909.551b)

A semi-molten fragment of knitted wire chain, flattened and bent back on itself (**Pl. 17**), with a group of multiple nicking on the bent edge indicating that it has circulated as hack-silver.

Nicks: *c.* 7. L 2.3; W 1.3; T 0.1–0.2cm. Wt 2.41g.

XRF-analysis (Macalister in Kruse and Tate 1992): 'silver' = 93.3%
Ag: 91.5%; Cu: 6.2%; Zn: 0.0%; Au: 0.8%; Pb: 1.0%; Bi: 0.0%; Sn: 0.0%; Au per 100 Ag: 0.9%

Evans collection: Thompson 1956, pl. xii,a; Macalister in Kruse and Tate 1992, 324–5.

Sheet scrap (1:370–3)

1:370 Silver sheet scrap (MME: 1841,0711.477)

An irregularly shaped fragment of plain sheet silver, severed on all four sides, with battered surface and cracked edges (**Pl. 17**).

Nicks: 8 (inc. 3 pecks). L x W 3.1 x 2.6; T 0.1cm. Wt 4.73g.

1:371 Silver sheet scrap (MME: 1841,0711.478)

A sub-rectangular fragment of plain sheet silver (in two pieces), with two straight sides meeting at a right-angle and two irregularly severed sides; on discovery, this was bent back on itself (as sketched in the British Museum Register), but it has since broken into two along the line of the fold (**Pl. 17**). The surface is battered, but there is no nicking.

Nicks: 0. L x W 2.8 x 1.3 and 2.7 x 2.0; T 0.03cm. Wt 2.04g.

1:372 Silver sheet scrap, or (?)band arm-ring fragment (MME: 1841,0711.503)

A sub-rectangular fragment of plain sheet silver, with one side hammered back on itself (cf. **1:373**; **Pl. 17**). Three (or maybe two) edges are either original (as manufactured) or else very cleanly sheared at right-angles to the surface; the fourth side is severed irregularly, with a light parallel cut. If this piece does have three original straight sides, it would presumably have been the terminal of a plain sheet band penannular arm-ring (*c.* 2.3cm wide).

Nicks: 10 (inc. 4 along the bent edge). L x W 2.1 x 1.6; T 0.1cm. Wt 4.03g.

1:373 Silver sheet scrap (MME: 1841,0711.504)

A fragment of plain sheet silver, irregularly severed on all four sides, and bent back on itself on one side, which has three parallel cuts along the edge (**Pl. 17**). This piece is directly comparable to **1:372** in thickness, bending and the subsequent nicking of the bent edge.

Nicks: 5 (all along the bent edge). L x W 1.6 x 1.5; T 0.1cm. Wt 2.54g.

Rings (1:374–994, 1:1,062 & 1:1,125–52)

1. Spiral-ring fragments (1:374–412)

All the spiral-ring fragments (a–d) are illustrated on **Pl. 18.**

(a) Permian ring terminals (1:374–5)

1:374 Silver terminal knob fragment (MME: 1841,0711.441)

Side portion (*c.* 1/3) severed from a faceted rectangular terminal knob of a large 'Permian' ring, ornamented on its upper and outer faces (**Fig. 5.3**). The upper face is bordered by a row of plain lozenge stamps (**Fig. 8.2,36**), inside which is an incised line with a wavy outer edge; the top of this surface has been sliced off, leaving only parts of two facets, one of which contains the remains of three (ovoid) ring stamps and the other two (**Fig. 8.3,4**). The same ring stamp was used three times to form a triangular arrangement on the intact triangular side face, along the upper sides of which runs an incised line with wavy outer edge (as on top); this continues around what little remains of the other two side faces.

Nicks: 2 (forming a pair, cut deeply on the underside from opposite directions after the knob had been severed). L 3.2; W 1.0; H 0.9cm. Wt 13.96g (drilled).

XRF-analysis: BMRL (File 5935), by Janet Lang (1991).
Ag: 97%; Cu: 1.4%; Pb: 1.4%; Au: 0.1%

Hawkins 1847, 126, fig. 66; Bjørn and Shetelig 1940, fig. 11.

1:375 Silver terminal knob (MME: 1841,0711.523)

Plain, faceted rectangular, terminal knob on an ornamented rod, severed from a 'Permian' ring (**Fig. 5.3**). The outer face of the rod has a row of hourglass stamps, consisting of conjoined rounded triangles containing

single pellets (**Fig. 8.2,86**).

Nicks: 13 (3 on knob; 10 on rod). L 3.5; (knob) 0.9 x 0.85 x 0.75 (H); D (rod) 0.4cm. Wt 8.38g (drilled).

Hawkins 1847, 125, fig. 61; Bjørn and Shetelig 1940, 40 (m), fig. 11; Graham-Campbell 1987a, 333, 336, fig. 3.

(b) Striated rod fragments (1:376–405)

1:376 Silver, part striated, rod fragment (MME: 1841,0711.590)

Severed at both ends and twice bent back on itself, with an additional loop towards one end; the central portion of the rod is circular in section and plain, but its ends are characteristically striated.

Nicks: 2. L 11.1; D 0.5cm. Wt 68.22g.

1:377 Silver, part finely striated, rod fragment (MME: 1841,0711.591)

Severed at both ends, one of which is plain and octagonal in section and the other finely striated (as **1:398**), and bent into a U-shaped loop with arms of unequal length (**Fig. 5.3**); there is a deep cut into the striated part.

Nicks: 5. L 5.1; D (rod) 0.5; W (polygonal section) 0.4 x 0.4cm. Wt 13.83g (drilled).

XRF-analysis: BMRL (File 5935), by Janet Lang (1991).
Ag: 99%; Cu 0.4%; Pb: 0.8%; Au: 0.9%

Hawkins 1847, 122, fig. 52; Bjørn and Shetelig 1940, 38, fig. 10; Graham-Campbell 1987a, 333, 336, fig. 3.

1:378 Silver striated rod fragment (MME: 1841,0711.593)

Severed at both ends from the same direction, with flattening on the opposite side.

Nicks: 4. L 1.7; D 1.1cm. Wt 11.65g.

1:379 Silver striated rod fragment (MME: 1841,0711.594)

Severed at both ends from different directions.

Nicks: 4. L 2.3; D 0.6cm. Wt 5.39g.

1:380 Silver striated rod fragment (MME: 1841,0711.595)

Severed at both ends from opposite directions, with considerable flattening and some cracking, partly obscuring a couple of nicks, but there is also one on each cut end.

Nicks: 4. L 1.3; D 0.8cm. Wt 4.43g.

1:381 Silver striated rod fragment (MME: 1841,0711.596)

Severed at both ends from opposite directions.

Nicks: 1. L 2.2; D 0.65cm. Wt 6.28g.

1:382 Silver, part coarsely, striated rod fragment (MME: 1841,0711.597)

Severed at both ends, one of which is plain and octagonal in section and the other coarsely striated.

Nicks: 4. L 2.1; D (rod) 0.6 (polygonal section) 0.6 x 0.6cm. Wt 5.71g.

1:383 Silver striated rod fragment (MME: 1841,0711.598)

Severed at both ends from opposite directions, with considerable flattening.

Nicks: 2. L 1.6; D 0.6cm. Wt 4.06g.

1:384 Silver striated rod fragment (MME: 1841,0711.599)

Severed at both ends from the same direction, with flattening on the opposite side, including one nick and six more on this smooth face.

Nicks: 7. L 1.3; D 0.6cm. Wt 3.55g.

1:385 Silver striated rod fragment (MME: 1841,0711.600)

Severed at both ends from opposite directions.

Nicks: 0. L 2.8; W 1.5cm. Wt 4.99g.

1:386 Silver striated rod fragment (MME: 1841,0711.601)

Severed at one end and broken at the other.

Nicks: 5. L 1.8; D 0.5cm. Wt 3.25g.

1:387 Silver striated rod fragment (MME: 1841,0711.602)

Severed at both ends from opposite directions, so that it is flattened on two sides.

Nicks: 2 (a double nick on one side). L 0.8; D 0.65cm. Wt 1.8g.

1:388 Silver, finely striated, rod fragment (MME: 1841,0711.604)

Severed at both ends.

Nicks: 8 (inc. one double). L 3.4; D 0.4cm. Wt 4.82g.

1:389 Silver, part striated, rod fragment (MME: 1841,0711.605)

Bent into a loop, with one broken and one severed end; it is striated for one third of its length from the broken end, and the rest is plain except for a row of hourglass stamps along its outer face. The stamp has incompletely registered because of the curvature of the rod, but consists of two opposed trapezoidal elements, both containing three pellets.

Nicks: 15 (around the outside of the loop). D (of loop) 2.0; D (rod) 0.45cm. Wt 8.62g.

1:390 Silver, finely striated, rod fragment (MME: 1841,0711.606)

Severed at both ends.

Nicks: 9. L 3.9; D 0.45cm. Wt 5.16g.

1:391 Silver, part striated, rod fragment (MME: 1841,0711.607)

Severed at both ends, one of which is plain and tapered; the other (cut with two oblique strokes) is striated.

Nicks: 5. L 2.1; D 0.5–0.4cm. Wt 3.62g.

1:392 Silver striated rod fragment (MME: 1841,0711.608)

Broken at one end, bent and severed at the other; much worn, with traces of five nicks/pecks.

Nicks: 5. L 2.45; D 0.4cm. Wt 2.56g.

1:393 Silver striated rod fragment (MME: 1841,0711.609)

Curving; severed at both ends from different directions.

Nicks: 2. L 1.7; D 0.4cm. Wt 1.92g.

1:394 Silver striated rod fragment (MME: 1841,0711.610)

Bent; severed at both ends from the same direction.

Nicks: 4 (on outside curve). L 1.4; D 0.4cm. Wt 2.00g.

1:395 Silver, part striated, rod fragment (MME: 1841,0711.611)

Severed at both ends, one of which is plain and octagonal in section, and the other finely striated (as **1:379**).

Nicks: 4. L 3.4; D (rod) 0.5; W (polygonal section) 0.45 x 0.45cm. Wt 6.4g.

1:396 Silver part striated rod fragment (MME: 1841,0711.696,n)

Curved, with its striation poorly executed; it is severed at both ends, with a parallel cut at one.

Nicks: 1. L 3.1; D 0.5cm. Wt 6.79g.

1:397 Silver striated rod fragment (MME: 1841,0711.696,o)

Severed at both ends.

Nicks: 4. L 1.1; D 0.4cm. Wt 1.27g.

1:398 Silver, part finely striated, rod fragment (AC: 129)

Bent into a loop with arms of unequal length, it is severed at both ends, one of which is plain and tapering, although the greater part of the rod fragment is finely striated; some of the twists have opened up.

Nicks: 4. L 5.5; D 0.5–0.4cm. Wt 17.07g.

1:399 Silver striated rod fragment (AC: 130)

Curved; severed at both ends, with some opening of the twists.

Nicks: 9. L 3.3; D 0.7cm. Wt 10.89g.

1:400 Silver striated rod fragment (AC: 131)

Curved; severed at both ends.

Nicks: 5. L 3.3; D 0.5cm. Wt 4.53g.

1:401 Silver, part striated, rod fragment (AC: 132)

Severed at both ends, one of which is plain, although the greater part is striated.

Nicks: 2. L 2.6; D 0.5cm. Wt 4.53g.

1:402 Silver striated rod fragment (AC: 133)

Severed at both ends, one of which is bent and flattened.

Nicks: 8. L 3.4; D 0.6cm. Wt 11.48g.

1:403 Silver, finely striated, rod fragment (LM: 53.114.40)

Bent into a loop; severed at both ends.

Nicks: 0. L 4.1; D 0.6cm. Wt 24.63g.

Nelson collection: ex-Drabble, ex-Shaw, ex-Richardson and ex-Assheton collections (Sotheby's, 2 February 1920, lot 171; 23 July 1924, lot 565; Glendining's, 14 December 1943, lot 1206); Shetelig 1954, fig. 85; Philpott 1990, 38 (pl.).

1:404 Silver, part finely striated, rod fragment (LM: 53.114.41)

Severed at both ends, one of which is finely striated (as **1:403**), the other plain and bent.

Nicks: 0. L 2.5; D 0.5cm. Wt 41.70g.

Nelson collection: Shetelig 1954, fig. 85; Philpott 1990, 38 (pl.).

1:405 Silver, finely striated, rod fragment (AM: 1909.545)

Slightly bent, severed at both ends, both with two blows from different directions.

Nicks: 7. L 3.8; D 0.7cm. Wt 13.21g.

Evans collection; Thompson 1956, pl. xii,a.

(c) Stamped rod fragment (1:406)

1:406 Silver rod fragment (AC: 142)

Curved; cut at both ends (**Pl. 18**). It is octagonal in section, with a row of stamped decoration across each angle; the stamp consists of a pair of opposed (conjoined) triangles, both containing a centrally placed pellet (**Fig. 8.2,87**). One face has been somewhat flattened (hammered) after decoration.

Nicks: 4. L 1.6; W 0.9cm (0.8cm, with flattened face). Wt 7.52g.

(d) Striated rod fragments, part made (1:407–12)

1:407 Silver rod fragment (MME: 1841,0711.583)

Part twisted, with one end severed; bent into a loop (**Fig. 5.3**). The plain tapered terminal is of circular section, but the rest of the rod has been hammered to a square section before the twisting was started, although the striating process had not been completed when the rod was cut (cf. **1:408–11**).

Nicks: 11. L 4.9; D 0.25 (min); W 0.6 x 0.6cm (max). Wt 15.61g.

Hawkins 1847, 122, fig. 51; Bjørn and Shetelig 1940, fig. 10.

1:408 Silver rod fragment (MME: 1841,0711.584)

Twisted fragment of square-sectioned rod, incompletely striated (as **1:407**), severed at both ends and bent into a U-shaped loop, with everted ends of unequal length; in crisp condition.

Nicks: 2. L 2.5; W 0.4 x 0.4cm. Wt 4.19g.

1:409 Silver rod fragment (MME: 1841,0711.585)

Small twisted fragment of square-sectioned rod, severed at both ends (as **1:408** and **410**); heavily nicked for its size.

Nicks: 13. L 1.8; W 0.4 x 0.4cm. Wt 2.04g.

1:410 Silver rod fragment (MME: 1841,0711.586)

As **1:409**, in form and size, but less nicked.

Nicks: 4. L 1.8; W 0.4 x 0.4cm. Wt 1.99g.

1:411 Silver rod fragment (MME: 1841,0711.587)

Part twisted, with one plain wedge-shaped terminal and the other end severed (as **1:407**), bent into a U-shaped loop; in worn condition, with concretions on one side.

Nicks: 3. L 3.5; W 0.4 x 0.4cm. Wt 4.19g.

1:412 Silver rod fragment (AM: 1909.544)

Straight fragment, incompletely striated (twisted four times), severed at both ends.

Nicks: 6. L 7.0; W 0.5 x 0.5cm. Wt 18.58g.

2. Band arm-ring and fragments, with Scandinavian and related ornament (1:413–42)

(a) Cast and sheet band arm-ring fragments, with Sub-group (i) ornament (1:413–16)

1:413 Silver band arm-ring edge-fragment (MME: 1841,0711.442)

Rectangular band fragment, severed on three sides from a massive cast ring of D-shaped section (**Pl. 19**); the lower side is cut from the back with consequent flattening of the ornament on its upper surface. All that remains of this decoration is a deep transverse C-shaped groove with a punched outer edge, giving it a serrated appearance, with a similar row of regular punch marks forming a border along the upper outer edge of the ring.

Nicks: 7. L 1.8; W 1.4; T 0.7cm. Wt 10.22g.

1:414 Silver band arm-ring fragment (MME: 1841,0711.467)

Severed at both ends from the narrow side – or end portion – of a cast ring, possibly originally tapered; it is, however, distorted and has flattening of the ornament on its upper surface as a result of having been cut from below at one end, with the other being broken (**Pl. 19**). The decoration comprised deep transverse C-shaped grooves; the remains of that at the broken end frame a central pit, whereas there is an indication that the other had everted ends (cf. **1:415** and **416**).

Nicks: 0. L 0.7; W 0.8; T 0.4cm. Wt 1.13g.

1:415 Silver band arm-ring edge-fragment (MME: 1841,0711.256)

Sub-rectangular fragment, severed on three sides from a flat band ring, considerably thinner than **1:413** and **414** (but cf. **1:416**), although with related, stamped ornament on its upper surface (**Pl. 19**). The surviving decoration comprises the remains of three impressions from a plain C-shaped stamp (**Fig. 8.4,1**), used end-to-end to create a transverse serpentine groove, against a background of random ring-stamping (**Fig. 8.3,5**).

Nicks: 2 (on the original outer edge). L 1.35; W 1.3; T 0.2cm. Wt 1.99g.

1:416 Silver band arm-ring edge-fragment (MME: 1841,0711.263)

Severed at both ends from the tapering side of a flat band ring (similar to **1:414**), with the stamped ornament on its upper surface defaced from its having been cut, at both ends, from the back (**Pl. 19**). A C-shaped stamp (**Fig. 8.4,2**) has been used in combinations of three to create two serpentine transverse grooves, presumably forming part of a central row, with two additional impressions at the wider end touching the outer edges, suggesting the beginning of swag-like borders.

Nicks: 3 (on one cut end). L 0.95; W 1.3–0.9; T 0.2cm. Wt 1.81g.

(b) Cast and sheet band arm-ring fragments, with Sub-group (ii) ornament (1:417–25)

1:417 Silver band arm-ring edge-fragment (MME: 1841,0711.244)

Severed at both ends (which have been bent in opposite directions) from the tapering side of a cast ring, hammered on the reverse to give a slightly convex section (**Fig. 5.6,** no. 4; **Pl. 19**). Its elaborate stamped ornament appears to have been cast, as the very deep impressions (*c.* 0.1cm) have not left any impact traces on its outer edges or on the reverse. A median ridge divides the ornament into two longitudinal zones; this ridge and the borders are defined by incised lines and all three carry a row of plain opposed (conjoined) triangle stamps (**Fig. 8.2,43**). The longitudinal zones of ornament are both filled with two interlocking rows of plain rectangle-on-triangle (dagger-shaped) stamps (**Fig. 8.2,25**), leaving a zigzag band in false relief, with animal-head terminals having ring-stamped eyes (**Fig. 8.3,6**).

Nicks: 2 (a pair, on one outer edge). L 3.3; W 2.1–1.8; T (ridge) 0.2–0.1cm (edges). Wt 8.44g.

XRF-analysis: BMRL (File 5935), by Janet Lang (1991).
Ag: 97%; Cu: 1.8%; Pb: 0.5%; Au: 0.2%

Hawkins 1847, 120, fig. 47; Bjørn and Shetelig 1940, fig. 12.

1:418 Silver, sheet-band, annular arm-ring terminal fragment (MME: 1841,0711.230 and 342; AC: 85 and 86)

Broken into five pieces (**Pl. 19**), and now divided between the British Museum (**a** and **b**) and the Assheton collection (**c**, **d** and **e**).

(**a** and **b**). The large terminal fragment (**a**) in the Museum (originally registered as 41,7-11,230) comprises one half of a sheet band annular arm-ring, of convex section, with elaborate stamped ornament, tapering to a plain rod, the end of which is bent up and into a loop (**Fig. 5.6,** no. 45). The edges of the band are thin and cracked, and it has been broken across its mid-portion; a small piece, broken away from one of its outer edges (**b**), was registered separately (as 41,7-11,342). Given that this band is so thin and fragile – and that, since (**b**) was sketched in the British Museum Register, its narrow end has been broken off and lost – the other breaks are also most likely to have been secondary, either on discovery or during subsequent handling, so that all five pieces are catalogued together here as comprising one original fragment. It is decorated with two stamps, the main one being a triangle containing four pellets (**Fig. 8.2,21**), the other being smaller and consisting of two plain opposed triangles, with a gap between them (**Fig. 8.2,72**). The small stamp is used to form a row of five impressions on the

terminal rod, but as it expands into the band this is replaced by two rows of interlocking triangles, between single border grooves. This arrangement is in turn replaced by two longitudinal zones of ornament, both containing two rows of interlocking triangles, separated by three central grooves; at the mid-portion, where the band is widest, there was space on either side of the central grooves for an additional row of stamping, with a mixture of both stamps.

Nicks: 4. L 8.5; fragment (**b**): 1.1 (but originally 1.4cm); W 2.0+ (fragment: 0.5cm); T 0.07cm. Wt 8.83 + 0.22g (originally 0.26g). Total Wt: *c.* 9.05g.

Hawkins 1847, 120, fig. 45; Bjørn and Shetelig 1940, fig. 12; Graham-Campbell 1987a, 333, 337, fig. 5; 1993, 82–3.

(**c–e**). The largest piece (**c**) of this arm-ring in the Assheton collection (AC: 85) is shorter than (**a**), being broken at both ends, and – in turn – part of one of its outer edges has broken away, but this secondary fragment exists in two pieces (**d**) and (**e**), listed in the Museum as AC: 86a and b. All three pieces join and their ornament corresponds exactly with that described above for (**a**) and (**b**), except that there is only one additional row of stamping along the line of the central grooves, using only the opposed triangle stamp.

Nicks: 1 (on the outer edge of **c**). L 2.6; (**d**) and (**e**) together 1.7; W 2.4+; T 0.06cm. Wt (**c**) 2.74; (**d**) 0.38; (**e**): 0.25; total (**c–e**) 3.37g. Total Wt (**a–e**): *c.* 12.42g.

1:419 Silver band penannular arm-ring terminal fragment (MME: 1841,0711.231)

Terminal fragment tapering somewhat to a rounded terminal and broken across at the other end, at about the mid-portion of the ring; although flattened, it is in excellent condition (**Fig. 5.6,** no. 32; **Pl. 19**). The band is thin and the stamping heavy, with the result that its outer edges have been pushed outwards to give a scalloped effect. The ornament is divided into two longitudinal zones by means of a central line formed by an end-to-end row of a multiple (8) point bar stamp (**Fig. 8.1,8**); each contains two interlocking rows of a triangle stamp, containing three well-spaced pellets (**Fig. 8.2,9**). There are 93 complete or fragmentary triangle stamps on this piece, as well as fourteen bars, so that the complete ring must originally have had over 200 stamp impressions.

Nicks: 0. L 9.1; W 2.2–1.6; T 0.1–0.15cm. Wt 18.42g.

Hawkins 1847, 117, fig. 32; Bjørn and Shetelig 1940, fig. 12.

1:420 Silver sheet-band arm-ring edge-fragment (MME: 1841,0711.245)

Severed at both ends from the tapering side of a ring of convex section, with five rows of stamped ornament and decorative pecking (**Fig. 5.6,** no. 46; **Pl. 19**). The ornament is divided into two longitudinal zones by a median row of plain opposed (conjoined, but lop-sided) triangle stamps (**Fig. 8.2,69**), between a pair of lightly incised, parallel lines. To either side of this is a row of an unusual, plain back-to-back triangle (dumb-bell) stamp (**Fig. 8.2,44**), interlocking along its outer edge with a row of a lozenge stamp containing a single large pellet (**Fig. 8.2,37**). After stamping, further decoration was added in the form of systematic pecking: a single peck on most of the plain lozenges left between the stamps forming the median row; a single peck on most of the plain areas left between the dumb-bell stamps; and two to four, but normally three, pecks within the dumb-bell stamps themselves.

Nicks: 2 (on one outer edge). L 2.2; W 1.8–1.4; T 0.1cm. Wt 2.39g.

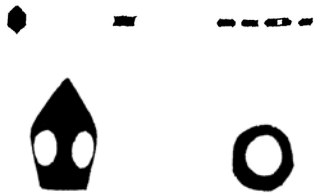
Hawkins 1847, 120, fig. 46; Bjørn and Shetelig 1940, fig. 10.

1:421 Silver sheet-band arm-ring edge-fragment (MME: 1841,0711.247)

Flattened fragment, cut and broken from the tapering side of a ring, with elaborate punched ornament, originally in two longitudinal zones, using five stamps (**Cat. Fig. 9**); it has been severed along its median row (**Fig. 5.6,** no. 40; **Pl. 19**). This central line seems to have been formed with a plain oblong stamp (**Fig. 8.2,35**), whereas the outer border comprises a line formed with a plain hexagonal stamp, within a plain punched groove (**Fig. 8.2,34**). The longitudinal zones of ornament are both filled with two rows of ring stamps (**Fig. 8.3,7**), linked into a zigzag by means of diagonal lines, each formed by the impression of a plain four-point bar-stamp (**Fig. 8.1,9**); alternating with each ring-stamp, and so between the zigzag line, is a sub-triangular stamp containing a pair of pellets (**Fig. 8.2,33**), the two rows pointing towards each other.

Nicks: 7 (along the original outer edge, which is also cracked). L 4.0; W (max) 1.4 (from outer edge to median line), tapering to 1.2; T 0.1cm. Wt 3.85g.

Hawkins 1847, 119, fig. 40.



Cat. Figure 9 The five stamps on arm-ring **1:421**

1:422 Silver band arm-ring fragment (MME: 1841,0711.257)

Rectangular, being severed on all four sides from a ring with stamped ornament; on three sides it is cut from above and on the fourth from below, with a parallel cut (**Pl. 19**). The surviving ornament consists of two interlocking rows of a triangular stamp, containing three pellets (**Fig. 8.2,10**), and a triangular-headed stamp, containing a cluster of small pellets, from which extends a pellet-filled bar linking it to another (incomplete) element (**Fig. 8.2,30**).

Nicks: 0. L x W 1.3 x 1.0; T 0.15cm. Wt 1.35g.

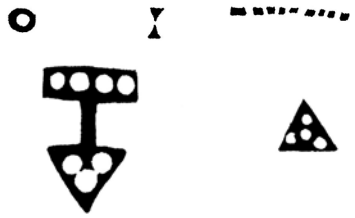
1:423 Silver sheet-band arm-ring edge-fragment (MME: 1841,0711.259)

Flattened and worn, severed from the tapering side of a ring, with elaborate punched ornament, originally in two longitudinal zones (using five stamps: **Cat. Fig. 10**), having been cut along its central line; one end is cut twice, but the other only once (**Fig. 5.6,** no. 41; **Pl. 19**). The outer border consists of a closely spaced row of a plain opposed (conjoined) triangle stamp (**Fig. 8.2,73**), which is used to form the central division with two contiguous rows surviving of what might originally have been four. The longitudinal zone of ornament comprises two rows of different inward-pointing stamps, standing on its borders, their points interlocking, but separated by a zigzag formed from a 10-point bar-stamp (**Fig. 8.1,10**); the outer row is of a dagger-shaped stamp, consisting of a rectangle, containing a row of four pellets, on a triangle, containing three (**Fig. 8.2,31**), whereas the inner stamp is simply a triangle containing four pellets (**Fig. 8.2,22**). The fifth stamp, a lop-sided ring (**Fig. 8.3,8**), is used in rows of three to fill the space between each impression of the dagger-shaped stamp.

Nicks: 6 (inc. 3 on the original outer edge, with the others on cut edges). L 2.0; W (max) 1.5 (from outer edge to median line), tapering to 1.3; T 0.1cm. Wt 2.17g.

XRF-analysis: BMRL (File 5935), by Janet Lang (1991).
Ag: 98%; Cu: 1.6%; Pb: 0.2%; Au: 0.2%

Hawkins 1847, 119, fig. 41.



Cat. Figure 10 The five stamps on arm-ring **1:423**

1:424 Silver band arm-ring fragment (AC: 104)

The mid-portion and part of one side of a tapered band arm-ring, of slightly convex section, severed at both ends, with a crack in one outer edge (**Pl. 19**). The ornament consists of longitudinal rows of stamping, with five rows at its mid-portion, reducing to four and then three on the side. A central row of a plain rectilinear S-shaped stamp (**Fig. 8.2,68**) divides the band horizontally into two zones, except where there are only four rows of stamping (for a length of 1.8cm). On either side are two rows of an (outward-facing) lozenge-on-rectangle stamp, with both elements containing a pellet (**Fig. 8.2,32**); these four rows continue around the band, before reducing to two.

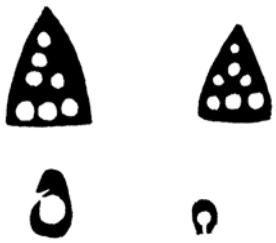
Nicks: *c.* 5 (several very small, with at least one peck on the inner face). L 6.4; W 2.8–1.6; T 0.2–0.1cm. Wt 25.06g.

1:425 Silver band annular(?) arm-ring terminal fragment (AC: 154)

Severed at both ends from one end of an exceptionally broad ring, which tapers

markedly to a terminal rod of sub-rectangular section, suggesting that the ring was originally annular in form; the whole is bent out of shape and badly cracked (**Pl. 19**). It is decorated with use of four stamps (**Cat. Fig. 11**). The outer face of the rod terminal is ornamented with a pair of impressions from an ovoid ring stamp (**Fig. 8.3,9**), forming the eyes of an animal-head, facing the end, with a plain, but contour-grooved snout (**Fig. 5.7**); the back of the head is partially modelled from having been lightly hammered on both sides behind the eyes, with its mane represented by a group of small ring stamps (**Fig. 8.3,10**). The front of the band is densely packed with longitudinal rows of interlocking triangular stamps, of which there are two, one being slightly larger than the other, but both containing seven pellets, differently arranged (**Fig. 8.2,23–4**).

Nicks: 1. L 4.2; W (max) 4.3; T 0.1; rod section (min) 0.4 x 0.3cm. Wt 13.18g.



Cat. Figure 11 The four stamps on arm-ring **1:425**

(c) Narrow band annular arm-ring and fragments, with Sub-group (iii) ornament (1:426–41)

1:426 Silver band annular arm-ring (MME: 1841,0711.239)

A narrow band, with a slightly expanded mid-portion, tapering to rods at either end which are twisted together; in good condition, except that the ring has been somewhat flattened, forming an oval (**Fig. 5.8,** no. 22; **Pl. 19**). It is decorated with a ring-stamp (**Fig. 8.3,11**) in two rows at its centre, staggered to either side, before continuing in single rows to the twisted terminal, with the stamping having been executed before the rods were hammered to shape (as **1:427**).

Nicks: 6. D 8.3; W 1.05; T 0.2; D (rod) 0.2cm. Wt 21.63g.

XRF-analysis: BMRL (File 5935), by Janet Lang (1991).
Ag: 97%; Cu: 1.9%; Pb: 1.3%; Au: 0.2%

Hawkins 1847, 116, fig. 22; Bjørn and Shetelig 1940, fig. 9.

1:427 Silver band annular arm-ring terminal fragment (MME: 1841,0711.234)

From a narrow band tapered ring, it is flattened and was broken by folding at its wider end, where it joins **1:428** (**Pl. 20**). It is also broken at its narrow end, which is in the form of a rod hammered to shape after the stamped ornament had been applied to the outer face, but when illustrated by Hawkins (1847, fig. 38) this took the form of an intact terminal hook (**Fig. 5.9,** no. 38). The decoration consists of two interlocking (inward-pointing) longitudinal rows of a plain dagger-shaped stamp (**Fig. 8.2,26**).

Nicks: 0. L 7.1; W (max) 1.2; D (rod) 0.2; T 0.15cm. Wt 6.85g.

Hawkins 1847, 118, fig. 38; Bjørn and Shetelig 1940, fig. 12.

1:428 Silver band annular arm-ring terminal fragment (LM: 53.114.24)

Deliberately broken from **1:427** (as described above), tapering to a terminal in the form of a loop, with the same stamped ornament continuing around its circumference (**Pl. 20**). Unlike **1:427**, this fragment remains curved, although bent out of shape.

Nicks: 1. D (ext) 5.5; W (max) 1.5; T 0.15cm. Wt 18.29g.

Nelson collection: ex-Grantley, ex-Richardson and ex-Assheton collections (Sotheby's, 2 February 1920, lot 170; Glendining's, 9 September 1942, lot 2); *Dark Ages Exhibition* (1930), 57, Case I, no. 3; Shetelig 1954, fig. 85; Philpott 1990, 38 (pl.).

1:429 Silver band annular arm-ring terminal fragment (MME: 1841,0711.235)

Broken at both ends from a narrow band tapered ring, with its narrowest end hammered into a rod (cf. **1:428**); it has been flattened and has cracked across near the terminal end, but it is otherwise in fresh condition (**Fig. 5.9,** no. 34; **Pl. 20**). The stamped ornament comprises three longitudinal rows of two stamps, both used on their side, the central one being of opposed (conjoined) triangles, each containing three pellets (**Fig. 8.2,97**), the outer rows being of conjoined rings (figure-of-eight: **Fig. 8.2,110**); the opposed triangle stamp is also used vertically to form a row along the rod, flattening it to an ovoid section.

Nicks: 2 (a pair on one edge). L 6.6; W 1.1; T 0.1; D (rod) 0.25 x 0.2cm. Wt 4.43g.

Hawkins 1847, 118, fig. 34; Bjørn and Shetelig 1940, fig. 12.

1:430 Silver band annular arm-ring terminal fragment (MME: 1841,0711.240)

The greater part of a narrow band ring, completed by **1:431** (from which it was severed with shears); it has an expanded mid-portion tapering to rods, the ends of which were originally twisted together (**Fig. 5.8,** no. 16; **Pl. 20**). It is decorated for the greater part of its circumference with a plain paired triangle stamp (**Fig. 8.2,7**). The triangles are impressed on their sides (back to back), somewhat irregularly, so as to form vertical rows.

Nicks: 2. D (ext) 8.3; W 1.1; T 0.2; D (rod) 0.2cm. Wt 17.65g. Total Wt (with **1:431**): 23.14g.

Hawkins 1847, 115, fig. 16; Bjørn and Shetelig 1940, fig. 9.

1:431 Silver band annular arm-ring terminal fragment (MME: 1841,0711.241)

Sheared from **1:430**, with identical ornament (**Pl. 20**). It is more or less flattened and around the severed end are the remains of a silver strip used to form a sleeve to join the two pieces, presumably during a nineteenth-century repair, as they were registered separately by Hawkins (who also illustrated **1:430** on its own).

Nicks: 1. L 8.0; W 0.3; T 0.2; D (rod) 0.2cm. Wt 5.49g.

1:432 Silver band (?)annular arm-ring fragment (MME: 1841,0711.255)

From a narrow band ring, tapering to one end and broken at both, bent up at the wider (**Pl. 20**); it presumably formed part of one side of an ornamented annular ring such as **1:426–31**. It is decorated with two inward-pointing rows of a triangle stamp, containing a single pellet (**Fig. 8.2,8**), one along each outer edge.

Nicks: 8. L 1.2; W 0.9–0.6; T 0.1cm. Wt 0.63g.

1:433 Silver band (?)annular arm-ring fragment (MME: 1841,0711.260)

Lost; it had clearly formed part of a narrow band ring, tapering to one end, both of which are severed. It is depicted in the British Museum Register (**Pl. 53**) as **1:432**, but shorter, with the same arrangement of pellet-in-triangle stamping. The dimensions are recorded (in inches) as 'L .25; W .4', and the weight (in grains) as '6'.

Nicks: ? L *c.* 0.7; W (max) *c.* 1.0cm. Wt 0.39g.

1:434 Silver band arm-ring fragment (MME: 1841,0711.262)

From a narrow band ring, tapering to one end, which is clipped; the other is cut and broken, obscuring the detail of the blobby stamped ornament (**Pl. 20**). The main part of the decoration consists of two rows of stamping: that along one edge being from a plain angular stamp (**Fig. 8.2,1**), whereas that along the other consists of an angular blob on a short stem with a foot (**Fig. 8.2,45**). This fragment is heavily nicked for its small size, with six along one edge and seven on the other.

Nicks: 13. L 1.6; W 0.6–0.5; T 0.2cm. Wt 1.48g.

1:435 Silver band annular arm-ring terminal fragment (MME: 1841,0711.306)

From a narrow band ring, tapering at one end to a plain rod; severed at both from opposite sides (**Cat. Fig. 12**; **Pl. 20**). Only a small portion of its decoration survives, in the form of a pair of impressions from an ovoid stamp, containing a single pellet (**Fig. 8.3,12**), from which four parallel incised lines extend towards the front of the ring. These longitudinal lines were first scratched lightly and continue in this form, on the other side, towards the terminal rod, the outer ones curving inwards to match the tapering band. Where the outer lines touch the ovoid stamps on the inner side, they are linked to the outer edges of the ring. In this position, on this small fragment, the pair of stamps is suggestive of a pair of eyes (cf. **1:425**), but in this case it is more likely that they represent the ends of two continuous rows of stamped ornament, as on other such rings.

Nicks: 2. L 2.3; W 0.9; T 0.3; D (rod) 0.3cm. Wt 3.48g.

Cat. Figure 12 Annular band arm-ring terminal fragment (**1:435**), with stamped decoration

1:436 Silver band (?)annular arm-ring fragment (MME: 1841,0711.349)

From a narrow thin band, tapering to one end and broken at both (**Pl. 20**); it presumably formed part of one side of an ornamented annular ring (cf. **1:432**). It is decorated with two stamps: one a plain lozenge-on-triangle (**Fig. 8.2,27**), in two inward-facing rows along the wider (central) portion of the ring; and the other a pair of plain lozenges (**Fig. 8.2,74**) in a single row, although there are two additional lozenge impressions along one edge where this part of the band is at its widest. At the narrow end, it is broken across a single lozenge suggesting that towards the terminal the double-lozenge stamp was being used sideways.

Nicks: 3. L 3.2; W 1.1–0.5; T 0.1cm (0.15cm, at narrow end). Wt 2.76g.

1:437 Silver band annular arm-ring terminal fragment (MME: 1841,0711.679)

From a narrow band ring, with roughly punched ornament, tapering to a plain rod, now serpentine in form from having been twisted or knotted (**Pl. 20**); it is severed at both ends, the rod with shears.

Nicks and pecks: 7. L 4.1; W 0.5; T 0.3; D (rod) 0.3cm. Wt 3.87g.

1:438 Silver band annular arm-ring terminal fragment (AC: 77)

From a narrow band ring, severed at both ends, tapering to plain rods, which are twisted together (**Pl. 20**). It is decorated with a single row of a large ring stamp (**Fig. 8.3,13**).

Nicks: 4. L 6.2; W (max) 0.9; T 0.3cm. Wt 10.71g.

1:439 Silver band (?)annular arm-ring fragment (AC: 82)

From the slightly expanded mid-portion of a narrow band ring, with ring-stamped ornament (cf. **1:426**); severed at one end and broken at the other (**Pl. 20**). It is decorated with three rows of a large ring stamp (**Fig. 8.3,14**), the central row alternating with the outer ones, which are paired.

Nicks: 3 (inc. one double). L 3.0; W 1.4–0.9; T 0.16cm (0.17cm, at narrow end). Wt 4.83g.

1:440 Silver band (?)annular arm-ring fragment (AC: 88)

Severed at both ends from a thin narrow band ring, tapering to one end (**Pl. 20**). It is decorated with two rows of a plain opposed (conjoined) triangle stamp, irregularly shaped (**Fig. 8.2,46**). Painted 'Duchy' weight.

Nicks: 12 (6 on both outer edges). L 2.5; W 1.3–1.0; T 0.1cm. Wt 2.37g.

1:441 Silver band annular arm-ring terminal fragment (AC: 122)

Severed at both ends from a narrow band ring, tapering to rods with their ends twisted together; now bent back on itself (**Pl. 20**). The rods are decorated with a row of an opposed (conjoined) sub-triangular stamp, with a single pellet in at least one half, but incomplete (**Fig. 8.2,111**); as the band expands this is used in two, and then three, longitudinal rows.

Nicks: 2. L 4.7; W 0.7; T 0.2; D (rods) 0.2cm. Wt 7.74g.

(d) Band arm-ring fragment, with Sub-group (iv) 'Hiberno-Scandinavian style' ornament (1:442)

1:442 Silver band arm-ring fragment (MME: 1841,0711.277)

Severed at both ends, one after folding, it has been bent into a U-shaped loop (**Pl. 20**). Tapering slightly to one end, it is decorated with a transverse row of a plain narrow (chisel-like) bar stamp, but imperfect (**Fig. 8.1,1**), with two groups of thirteen between two diagonal crosses and the beginnings of a third, at the wider of the cut ends, with the transverse stamping continuing at the other (**Fig. 5.11,** no. 12).

Nicks: 2. L 3.2; W 1.15–0.95; T 0.2cm. Wt 12.48g.

XRF-analysis: BMRL (File 5935), by Janet Lang (1991).
Ag: 97%; Cu: 1.8%; Pb: 0.5%; Au: 0.2%

Hawkins 1847, 114, fig. 12; Butler 1966, 100, fig. 2,d; Graham-Campbell 1987a, 333, 337, fig. 6.

3. 'Broad-band' arm-rings and fragments, with 'Hiberno-Scandinavian' ornament (1:443–569)

1:443 Silver band annular arm-ring (AC: 100)

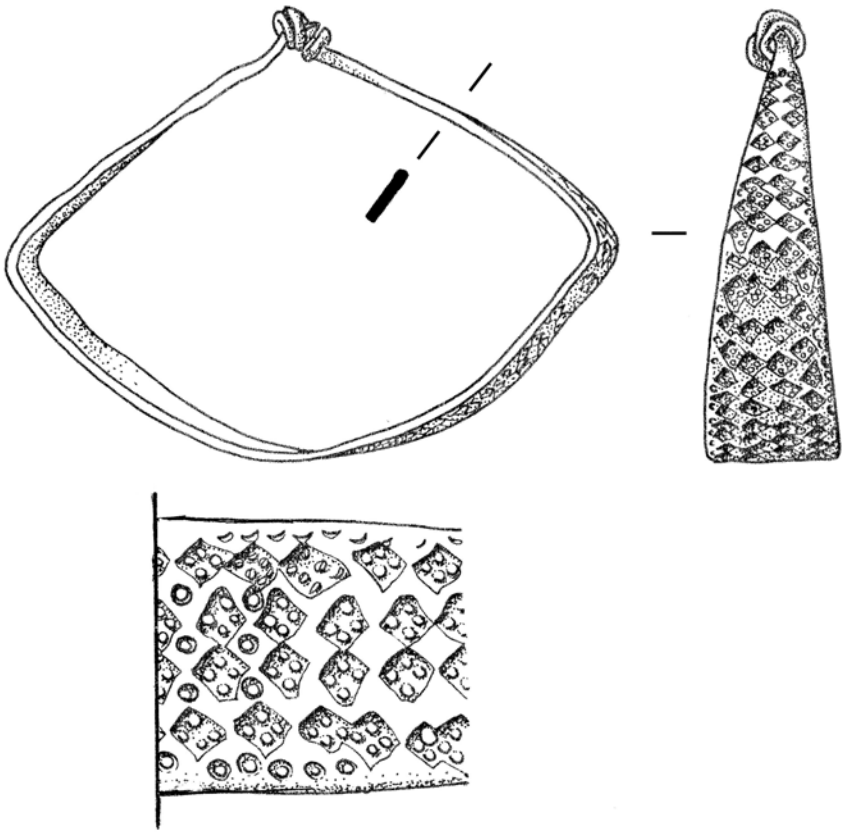
Complete arm-ring, with stamped decoration, the band tapering evenly to terminal rods which are twisted around each other; in very fine condition, but with some white concretions (**Fig. 5.8**, no. 21; **Pl. 21**). The decoration is executed with a multi-point bar-stamp of exceptional size, with sixteen sub-rectangular points (**Fig. 8.1,11**). There is a border, top and bottom for the entire circumference of the band, in the form of a continuous dotted line, from the repeated end-to-end use of the stamp. At the mid-portion there are two diagonal crosses between vertical lines, one at the centre and two at each end, on either side of which the decoration consists of pairs of oblique lines meeting to form inward-pointing chevrons, with the last *c.* 2.5cm of both sides being filled with vertical transverse lines. There are the remains of a painted 'Duchy' weight.

Nicks: c. 12 (2 certain nicks, on the same edge; c. 10–12 small slices and discrete nicks on one edge). D 8.4; W 2.3; T 0.36cm. Wt 83.73g.

Hawkins 1847, 115–16, fig. 21; Worsaae 1849, 61 (fig.).

1:444 Silver band annular arm-ring (AM: 1909.520)

Complete arm-ring, with stamped decoration, the band tapering evenly to terminal rods which are twisted around each other (**Pl. 21**); bent out of shape and cracked, as depicted in the drawing by Charles Roach Smith (**Cat. Fig. 4**). The outer face is filled with densely packed stamping (**Cat. Fig. 13**), the main feature of which is a central longitudinal row of a vertically impressed lozenge-on-lozenge stamp, both elements containing four well-spaced pellets (**Fig. 8.2,105**), alternating at its mid-portion with four vertical rows of a lop-sided ring-stamp (**Fig. 8.3,15**), with three impressions in each; this terminates at one end only in a vertical transverse row of three ring-stamps. The conjoined lozenge stamp is



Cat. Figure 13 Broad-band annular arm-ring (**1:444**; cf. **Cat. Fig. 4**), with stamped decoration (Ashmolean Museum)

also used, horizontally, to form a row along the top and bottom of the band, where its width permits; also, where possible, there is an outer border of the ring-stamp, impressed in ones and twos in the triangular areas left between the lozenges.

Nicks: 2 (on one edge). D 7.8; W 1.8; T 0.2cm. Wt 42.25g.

Evans collection (Roach Smith, *Notebook* (1842/43), 95 (**Cat. Fig. 4**); ex-Bateman: Sotheby's, 14–15 June 1893, lot 172); Thompson 1956, pl. xii,a.

1:445 Silver band penannular arm-ring (AC: 101)

Complete arm-ring, with stamped decoration, the band tapering from an expanded mid-portion to rounded terminals (**Pl. 21**); a very fine example, but cracking in a couple of places. The decoration is executed with a single bar-stamp containing a row of pellets (**Fig. 8.1,39**). There is a central diagonal cross, repeated once on each terminal, between which is a continuous row of vertical impressions, with an additional one beyond both terminal crosses.

Nicks: 9 (only 2 certain, with 1 on each outer angle, but also some small slices). D 8.8; W 2.2–0.7; T 0.4–0.2cm. Wt 100.44g.

1:446 Silver band penannular arm-ring (AC: 102)

Complete arm-ring, with stamped decoration, tapering from an expanded mid-portion (more flared on one side than the other) to sub-rectangular terminals (**Pl. 21**); the ends have been bent inwards to flatten it and there is considerable edge-cracking, with some iron staining. The decoration is executed by means of 94 impressions from a single ring-stamp that has a central triangle containing a pellet, surrounded by three solid D-shaped bars, forming a broken circle (**Fig. 8.3,42**). These are in two continuous longitudinal rows, with a short third row inserted between them at the expanded mid-portion.

Nicks: 4 (although the cracking may disguise others). L 9.4; W 2.0–0.9; T (centre) 0.2 (ends) 0.3cm. Wt 54.59g.

1:447 Silver band penannular arm-ring (AC: 103)

Complete arm-ring, with stamped decoration and hammered edges, the band tapering from an expanded mid-portion to rounded terminals (**Pl. 22**); in good condition, apart from having areas of white concretions towards the ends. The decoration is executed by means of three stamps, one of which – in the form of a plain Z, with triangular terminals (**Fig. 8.2,70**) – is used in a row to form both upper and lower borders, except at the ends. The central field on the mid-portion contains twelve impressions of a double ring stamp (**Fig. 8.3,43**); on either side a lattice stamp (**Fig. 8.1,53**) has been used vertically in a row, then once horizontally and, finally, three times vertically on both ends (without borders).

Nicks: 2 (1 on both edges). D 7.5; W 2.94–0.9; T 0.2cm. Wt 68.94g.

1:448–9 Pair of silver band penannular arm-rings (AM: 1909.519a and 519b)

Matching pair of complete arm-rings, with stamped decoration, the bands tapering to sub-rectangular terminals (although slightly flared on **1:448**); both are in very good condition and neither is nicked (**Cat. Fig. 14**; **Pl. 22**). Their decoration is executed by means of two stamps: one a rosette formed from eight sub-rectangular points (**Fig. 8.3,41**), and the other a bar consisting of a row of eight oblong to wedge-shaped elements (**Fig. 8.1,13**). On both rings, there are twelve oblique impressions of the bar-stamp, forming a zigzag line around a row of thirteen rosettes, although somewhat haphazardly applied.

(**1:448**) Nicks: 0. D 7.1; W 1.4–1.0 (at terminals) 1.2 and 1.1; T (centre) 0.2 (ends) 0.3cm. Wt 43.25g. (**1:449**) Nicks: 0. D 7.0; W 1.45–1.0 (at terminals) 1.05 and 1.0; T (centre) 0.2 (ends) 0.3cm. Wt 43.05g.

Evans collection (ex-Fairholt: Sotheby's, 30 July/1 August 1866, lot 348); Thompson 1956, pl. xii,a.

1:450–1 Silver band penannular arm-ring, in two pieces (MME: 1841,0711.232)

Complete arm-ring, with stamped decoration, although the band has been deliberately broken in two after having been bent into a U-shape (cf. **1:452–3**); its edges are cracked (**Pl. 23**). The larger (bent) piece consists of the expanded mid-portion and complete side, tapering to a rectangular terminal, formed by the end of the band being rolled back over itself; the smaller (flat) piece comprises the other side-portion and identical terminal. The decoration is executed by means of 195 impressions from two stamps: one a ring with a central pellet (**Fig. 8.3,16**), and the other a pair of plain opposed, but off-centre, triangles (**Fig. 8.2,75**). Twenty impressions of the ring-stamp form a central diagonal cross, and it is repeated three times at the terminal ends of the two continuous border rows, each of which consists otherwise of a line of opposed-triangle stamping.

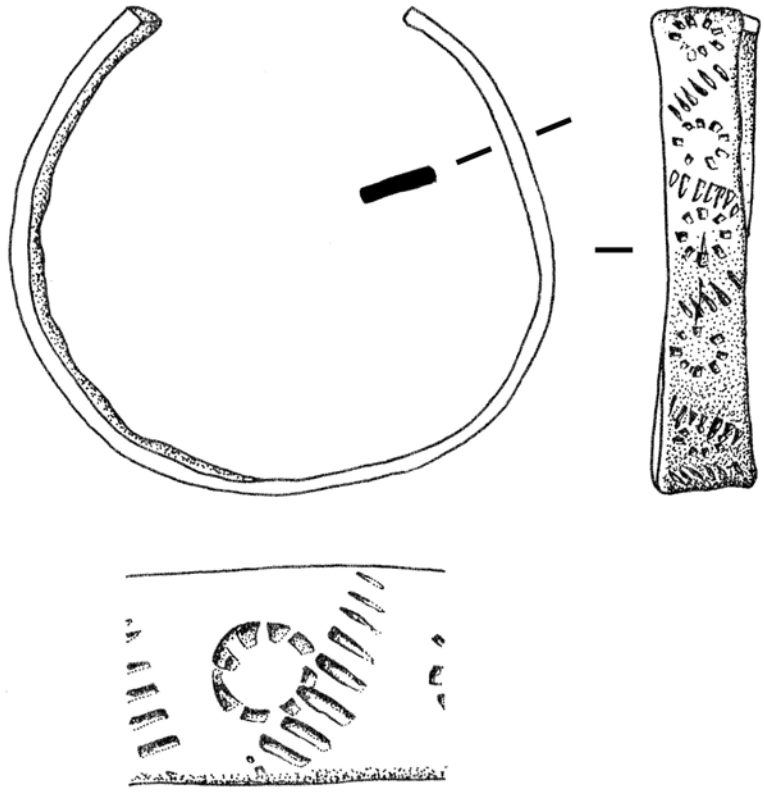
(**1:450**) Nicks: 6. L 10.3; W (max) 2.5 and 1.45 (at terminal); T (centre) 0.2 (ends) 0.1cm. Wt 36.19g. (**1:451**) Nicks: 0. L 7.2; W 1.2; T (at terminal) 0.15cm. Wt 13.70g. Total Wt: 49.89g.

XRF-analysis: BMRL (File 5935), by Janet Lang (1991).
Ag: 96%; Cu: 1.7%; Pb: 2.4%; Au: 0.3%

Bjørn and Shetelig 1940, figs 9 and 12.

1:452–3 Silver band penannular arm-ring, in two pieces (MME: 1841,0711.233)

Complete arm-ring, with stamped decoration, although one end of the band has been severed (cut with two strokes and broken off), after which the larger piece was folded into three, but subsequently re-opened; it is otherwise in good condition (**Pl. 23**). The band has an expanded mid-portion, tapering to sub-rectangular (rounded) terminals. The decoration is executed by means of 44 impressions (one of which was re-struck) from two stamps: one a lattice stamp (**Fig. 8.1,54**), and the other a double ring-stamp with the central pellet linked by a bar to the inner ring (**Fig. 8.3,44**). Five impressions of the ring-stamp form a central cross, between the arms of which is a diagonal cross from four oblique impressions of the lattice stamp, which is otherwise used vertically, with six transverse impressions at both ends; on either side of the cross, and between these terminal areas, there is a zone filled with two rows of partial impressions of the lattice stamp,



Cat. Figure 14 One of a pair of broad-band penannular arm-rings (**1:448**), with stamped decoration (Ashmolean Museum)

extending from both edges but not meeting in the middle.

(**1:452**) Nicks: 2. L 13.1; W (max) 2.3 and 1.0 (at terminal); T (centre) 0.15 (end) 0.1cm. Wt 27.01g. (**1:453**) Nicks: 0. L 2.9; W 0.9; T (at terminal) 0.1cm. Wt 3.03g. Total Wt: 30.04g.

Bjørn and Shetelig 1940, fig. 10.

1:454 Silver band arm-ring fragment (MME: 1841,0711.175)

Severed from a tapered band, at both ends, from the front (**Pl. 24**); there is possible decoration in the form of five parallel lines, cut vertically across, although these could be secondary.

Nicks: 0. L 1.6; W 2.35–2.2; T 0.65cm. Wt 20.41g.

1:455 Silver band arm-ring edge-fragment (MME: 1841,0711.185)

Severed on three sides, with the remains of a vertical transverse groove from a plain bar-stamp (**Pl. 24**). Its ends were cut and broken from the back, with one having a parallel cut, whereas the lower edge was cut from the front.

Nicks: 4 (all on the angles of one cut end). L 0.8; W 1.1; T 0.3cm. Wt 1.83g.

1:456 Silver band arm-ring fragment (MME: 1841,0711.246)

Severed at both ends from a tapered band, one with two strokes (**Fig. 5.12**, no. 37; **Pl. 23**); it is decorated with two border rows of a Y-shaped stamp, having an expanded foot containing a single pellet (**Fig. 8.2,106**), impressed vertically facing inwards.

Nicks: 18 (10 and 6 on the two outer edges, and 2 on one cut end). L 2.6; W 2.0–1.6; T 0.2cm. Wt 7.33g.

Hawkins 1847, 118, fig. 37.

1:457 Silver band arm-ring fragment (MME: 1841,0711.248)

Severed from a tapered band, at both ends (**Pl. 23**); it is decorated with closely spaced rows of a double ring-stamp, the outer ring consisting of three discontinuous segments (**Fig. 8.3,45**), of which only two have registered normally. There are two border rows with a third inserted between them where space permits as the width of the band expands.

Nicks: 4 (2 on both angles of one outer edge). L 3.2; W 1.45–1.1; T 0.2cm. Wt 7.44g.

Hawkins 1847, 119, fig. 43.

1:458 Silver band arm-ring fragment (MME: 1841,0711.249)

Severed at both ends, one with two oblique strokes from the back flattening the stamped decoration on the front; one outer edge is badly cracked (**Fig. 5.12**, no. 28; **Pl. 23**). The decoration consists of two border rows of a quatrefoil stamp, containing four pellets (**Fig. 8.2,108**), between which is a central row of an oblong trefoil stamp, containing three pellets (**Fig. 8.2,107**), impressed horizontally.

Nicks: 6. L 2.4; W 1.5; T 0.2cm. Wt 6.27g.

Hawkins 1847, 117, fig. 28.

1:459 Silver band arm-ring fragment (MME: 1841,0711.250)

Severed from a tapered band, cleanly cut at one end, but cut and broken irregularly at the other; it is decorated with a row of vertical transverse bar-stamping (**Fig. 5.12**, no. 26; **Pl. 23**). The stamp has angular indented sides, with a central row of at least nine pellets (**Fig. 8.1,36**).

Nicks: 2. L 2.3; W 1.9–1.8; T 0.3cm. Wt 11.26g.

Hawkins 1847, 116–17, fig. 26.

1:460 Silver band arm-ring edge-fragment (MME: 1841,0711.251)

Severed on three sides to form a square, with finely executed, small-scale stamped decoration (using four stamps: **Cat. Fig. 15**), although partially distorted along its lower edge which had probably been the middle of the band (**Pl. 23**). The main stamp is lozenge-shaped, containing a pellet, but it has one angle drawn out into a point (**Fig. 8.2,42**); this is used to form two interlocking rows, points inwards. Between each impression is a smaller stamp, comprising a pair of (unlinked) lozenges, both containing a pellet, impressed horizontally (**Fig. 8.2,88**). Along the lower, cut edge (?centre) is the remains of a row of a lop-sided lozenge stamp, containing a pair of pellets (**Fig. 8.2,41**), between each of which is impressed vertically what was most probably a pair of plain conjoined lozenges, although now incomplete (**Fig. 8.2,47**).

Nicks: 0. L 1.0; W 1.0; T 0.2cm. Wt 1.39g.

Hawkins 1847, 118, fig. 35.

Cat. Figure 15 The four stamps on arm-ring **1:460**

1:461 Silver band arm-ring fragment (MME: 1841,0711.252)

Severed at both ends from a tapered band, the narrower of which has been bent back under itself (**Fig. 5.12**, no. 27; **Pl. 23**); it has stamped decoration consisting of a row of vertical transverse bar-stamping, the bar being tripartite with a central ovoid, containing four pellets, between two triangles, both containing three pellets (**Fig. 8.1,38**). This fragment is the most heavily nicked of all extant pieces from the Cuerdale hoard (**Fig. 4.5**).

Nicks: 48 (24 along one outer edge and its angles, and 23 on the other, with 1 on the wider cut end). L 4.0; W 1.0–0.75; T 0.2cm. Wt 6.94g.

Hawkins 1847, 117, fig. 27.

1:462 Silver band arm-ring edge-fragment (MME: 1841,0711.253)

Severed cleanly on three sides, with one end secondarily clipped; it has stamped and incised decoration (**Pl. 23**). There are multiple lines cut diagonally across the reverse, accounting for the partial deformation of the front. In the main surviving zone of decoration there are three rows of a lozenge stamp, containing a pellet, with an imperfect edge (**Fig. 8.2,38**), the outer rows being impressed vertically with the central one inserted horizontally. The outer edge of the band has a border of two rows of a plain triangle (**Fig. 8.2,2**), pointing inwards, the inner row standing on an incised line, with some double striking.

Nicks: 4. L 1.5; W 1.4; T 0.2cm. Wt 2.71g.

1:463 Silver band arm-ring fragment (MME: 1841,0711.254)

Severed from a thick band on all four sides, from the front, with two parallel cuts across both the narrow ends (**Pl. 23**); there remains part of a row of stamped decoration, with two now incomplete impressions of a pellet-containing stamp.

Nicks: 0. L 1.9; W 0.9; T 0.4cm. Wt 4.34g.

1:464 Silver band arm-ring fragment (MME: 1841,0711.258)

Severed from a tapered band at both ends, from opposite directions, bent and flattened with a cracked surface (**Pl. 23**). There are two rows of stamped decoration forming borders along both the outer edges, using an amorphous stamp which might, however, be a series of half impressions from a plain dumb-bell stamp.

Nicks: 2 (1 on one outer edge, and 1 peck on reverse). L 1.5; W 0.9–0.8; T 0.15cm. Wt 1.64g.

1:465 Silver band penannular arm-ring, terminal fragment (MME: 1841,0711.261)

Severed from a band which tapers slightly to a rectangular terminal, the other end being roughly cut and broken (**Fig. 5.11**, no. 20; **Pl. 23**). There are two border rows of stamped decoration, using a plain opposed (conjoined) triangle stamp (**Fig. 8.2,48**).

Nicks: 3. L 6.1; W (at terminal) 1.2 and 1.1; T (at terminal) 0.2 and 0.3cm. Wt 14.23g.

Hawkins 1847, 115, fig. 20; Bjørn and Shetelig 1940, fig. 12.

1:466 Silver band arm-ring fragment (MME: 1841,0711.264)

Severed at both ends from the back, one end having a parallel cut, with consequent defacement of the stamped decoration on the front (**Pl. 23**). This consists of a row of vertical transverse bar-stamping, the bar containing a row of six or more pellets (**Fig. 8.1,40**).

Nicks: 9. L 1.1; W 0.9; T 0.3cm. Wt 2.04g.

1:467 Silver band arm-ring fragment (MME: 1841,0711.265)

Severed from the front at both ends, one obliquely with a parallel line (**Pl. 23**); there are the remains of a row of vertical transverse bar-stamping, the plain bar having wavy edges, but this is now too incomplete and distorted for adequate recording.

Nicks: 0. L 0.7; W 1.0; T 0.2cm. Wt 1.11g.

1:468 Silver band arm-ring edge-fragment (MME: 1841,0711.266)

Severed on three sides from a thick band, the ends having been cut with angled strokes from the back, giving it a trapezoidal section (**Pl. 23**); the front is much battered, obscuring the pattern of the stamped decoration for which an ovoid ring-stamp was used (**Fig. 8.3,17**).

Nicks: 7. L 0.8; W 2.1; T 0.4cm. Wt 4.00g.

1:469 Silver band arm-ring fragment (MME: 1841,0711.267)

Severed at both ends (from the back) from a tapered band, with the front being so battered that the stamped decoration has been all but obliterated (**Pl. 23**). There remains part of an oblique impression of a bar stamp (presumably once forming part of a diagonal cross), which has angular indented edges and a plain centre, now too incomplete for adequate recording.

Nicks: 8 (on cut edges only). L 0.8; W 1.3–1.2; T 0.3cm. Wt 2.34g.

1:470 Silver band arm-ring fragment (MME: 1841,0711.268)

Severed at both ends, with the remains of a row of vertical transverse stamped decoration, using a zigzag bar-stamp, now too incomplete for adequate recording (**Pl. 23**).

Nicks: 1. L 0.7; W 1.2; T 0.2cm. Wt 0.78g.

1:471 Silver band arm-ring edge-fragment (MME: 1841,0711.269)

Severed on three sides from the back, with two parallel cuts along the bottom edge; the front is consequently battered (**Pl. 23**). The remains of the stamped decoration consist of two vertical transverse impressions of a bar-stamp, with toothed edges and plain centre, now too incomplete for adequate recording.

Nicks: 1. L 0.9; W 0.7; T 0.3cm. Wt 1.27g.

1:472 Silver band arm-ring fragment (MME: 1841,0711.270)

Severed from a thick band, at one end downwards through an outer edge and at the other from the back (**Pl. 23**); with a vertical transverse impression from a bar-stamp, containing at least three pairs of conjoined pellets (**Fig. 8.1,41**).

Nicks: 4. L 1.2; W 1.4; T 0.4cm. Wt 4.86g.

1:473 Silver band arm-ring edge-fragment (MME: 1841,0711.271)

Severed at both ends from the back and on the lower edge from the front (**Pl. 23**); it has the remains of two impressions, one vertical and one oblique (as if part of a diagonal cross), of a multi-point double bar-stamp, comprising a minimum of three pairs of rectangular elements (**Fig. 8.1,14**).

Nicks: 8 (4 each on both angles of the original outer edge). L 1.4; W 0.6; T 0.2cm. Wt 1.30g.

1:474 Silver band arm-ring fragment (MME: 1841,0711.272)

Severed at one end downwards through an outer edge and at the other from the back, defacing the front; this is decorated with a row of vertical transverse stamping (**Pl. 23**), using a multi-point bar-stamp comprising a minimum of three oblong elements (**Fig. 8.1,15**).

Nicks: 13 (4 each on 3 angles of the outer edges, and 1 on the fourth). L 1.5; W 0.7; T 0.3cm. Wt 3.03g.

1:475 Silver band penannular arm-ring, terminal fragment (MME: 1841,0711.273)

Severed from the edge of an arm-ring terminal, with stamped decoration, at the end from the front and on the lower edge from the back, with an additional cut at an angle; the terminal appears to have been rectangular, but has a rough corner (**Pl. 23**). What remains of the main decoration consists of the beginning of a border row of vertical impressions of an opposed (conjoined) triangle stamp; both elements, which are in reality pentagonal, contain a single pellet (**Fig. 8.2,89**). On the edge of the terminal end is the beginning of a row of what could be either an ovoid ring-stamp or a sub-triangular one, containing a pellet.

Nicks: 2. L 0.9; W 0.6; T 0.2cm. Wt 0.73g.

1:476 Silver band arm-ring fragment (MME: 1841,0711.274)

Severed at both ends from the back, defacing part of the front which is decorated with a row of vertical transverse stamping from a bar-stamp (**Pl. 23**), containing two pairs of conjoined pellets (**Fig. 8.1,42**).

Nicks: 4. L 0.8; W 0.7; T 0.2cm. Wt 1.21g.

1:477 Silver band arm-ring edge-fragment (MME: 1841,0711.275)

Thin band, with stamped decoration (**Pl. 23**), broken at one end, but severed obliquely at the other and on the lower edge from the back, the latter having two parallel cuts; also on the reverse there is a transverse cut and a group of lighter diagonal ones. The extant decoration consists of two longitudinal rows of vertical impressions from a plain opposed (unlinked) triangle stamp, with pentagonal elements (**Fig. 8.2,76**).

Nicks: 7 (all on the angles of the original outer edge). L 1.2; W 0.8; T 0.1cm. Wt 0.64g.

1:478 Silver band arm-ring fragment (MME: 1841,0711.276)

Severed from a thin band, at one end from the back, but bent and broken at the other; there are two rows of stamped decoration forming borders along both the outer edges (**Pl. 23**), using a plain pentagonal stamp with an extension to its apex (**Fig. 8.2,3**), suggesting that these might be a series of half impressions from an opposed (conjoined) triangle stamp.

Nicks: 4. L 1.1; W 1.1; T 0.1cm Wt 1.42g.

1:479 Silver band arm-ring fragment (MME: 1841,0711.278)

Severed at both ends from a thick, slightly tapered band (**Pl. 24**); it is decorated with a row of vertical transverse plain bars, 1.7cm in length (**Fig. 8.1,2**).

Nicks: 7. L 1.7; W 1.9–1.8; T 0.4cm. Wt 11.27g.

1:480 Silver band arm-ring fragment (MME: 1841,0711.279)

Severed from a thick, slightly tapered band, at both ends from the back, with one angle cut off (**Pl. 24**); it is decorated with a row of vertical transverse plain bars (**Fig. 8.1,3**).

Nicks: 4. L 1.65; W 1.7–1.6; T 0.5cm. Wt 10.61g.

1:481 Silver band arm-ring fragment (MME: 1841,0711.280)

Severed obliquely at both ends from a thick band (**Pl. 24**); it is decorated with a row of vertical transverse plain bars (**Fig. 8.1,4**).

Nicks: 3. L 1.2; W 1.0; T 0.4cm. Wt 3.31g.

1:482 Silver band penannular arm-ring, terminal fragment (MME: 1841,0711.281)

Severed from a thick band which tapers slightly to its rectangular terminal (**Pl. 24**); it is decorated with a row of vertical transverse grooves, except for the terminal itself which is plain with hammered edges, the grooving executed perhaps by stamping or by cutting (or both).

Nicks: 4. L 2.2; W (max) 0.8 and 0.7 (at terminal); T (cut end) 0.4 (at terminal) 0.5cm. Wt 5.92g.

1:483 Silver band arm-ring fragment (MME: 1841,0711.282)

Severed at both ends, with possible decoration in the form of two deep, vertical transverse, incisions towards one end (**Pl. 24**); this may have been the beginning of a row of such grooves, although they could well be secondary. A scratched cross occupies the rest of this surface.

Nicks: 5. L 1.7; W 0.8; T 0.3cm. Wt 3.53g.

1:484 Silver band penannular arm-ring, terminal fragment (MME: 1841,0711.283)

Severed on two sides from the edge of the rectangular terminal of a thick band arm-ring (**Pl. 24**); there is some possible decoration in the form of two light, vertical transverse, incisions which might have formed the beginning of a row, but which could equally well be secondary.

Nicks: 1. L 1.2; W 0.8; T (max) 0.5 (at terminal) 0.4cm. Wt 3.46g.

1:485 Silver band arm-ring edge-fragment (MME: 1841,0711.285)

Severed on three sides from the front (**Pl. 24**); there are the remains of a row of vertical transverse stamping, using a bar with serrated edges and a plain centre (**Fig. 8.1,62**).

Nicks: 2. L 0.7; W 1.4; T 0.3cm. Wt 1.84g.

1:486 Silver band arm-ring edge-fragment (MME: 1841,0711.286)

Severed on three sides from the front (**Pl. 24**); there are the remains of a row of vertical transverse stamping, using a bar with serrated edges and a plain centre (**Fig. 8.1,63**).

Nicks: 9 (8 on the angles of the original outer edge). L 1.0; W 0.8; T 0.4cm. Wt 2.53g.

1:487 Silver band arm-ring fragment (MME: 1841,0711.287)

Slightly tapered band, severed at both ends from the back, with a parallel cut at one end (**Pl. 24**); on the front, there is some distortion of the stamped decoration which consists of a row of vertical transverse stamping, using a multi-point bar, with seven angular elements (**Fig. 8.1,16**).

Nicks: 11. L 0.95; W 1.55–1.45; T 0.4cm. Wt 3.89g (drilled).

1:488 Silver band arm-ring fragment (MME: 1841,0711.288)

Severed on all four sides (the shortest being clipped) into an irregular shape (**Pl. 24**); there are the remains of a row of vertical transverse stamping, using a multi-point bar, with a minimum of five angular elements (**Fig. 8.1,17**).

Nicks: 5. L 1.0; W 0.9; T 0.2cm. Wt 1.14g.

1:489 Silver band arm-ring fragment (MME: 1841,0711.289)

Severed from a tapered band, at both ends from the back, and then bent into a loop (**Pl. 24**); there is a row of vertical transverse stamping, using a bar-stamp with serrated edges (unlinked) and a plain centre (**Fig. 8.1,64**).

Nicks: 17 (11 on one outer edge, and 5 on the other, with 1 on the broader cut end). L 2.6; W 1.8–1.5; T 0.3cm. Wt 23.53g (drilled).

1:490 Silver band penannular arm-ring, terminal fragment (MME: 1841,0711.290)

Broken and flattened from a thick band arm-ring which tapers to a rectangular terminal (**Fig. 5.11**, no. 18; **Pl. 24**); it is decorated with a row of vertical transverse stamping, using a bar with serrated edges and a plain centre (**Fig. 8.1,65**).

Nicks: 4 (2 on both its outer edges). L 4.4; W (max) 1.0 (at terminal) 0.7; T (max) 0.4 (terminal) 0.25cm. Wt 10.79g (drilled).

XRF-analysis: BMRL (File 5935), by Janet Lang (1991).
Ag: 97%; Cu: 1.1%; Pb: 1.0%; 0.2%

Hawkins 1847, 115, fig. 18.

1:491 Silver band arm-ring fragment (MME: 1841,0711.291)

Severed from the front at one end and, at the other, with two oblique strokes from the back; it is decorated with a row of vertical transverse stamping (**Pl. 24**), using a multi-point bar, with nine irregular elements (**Fig. 8.1,18**).

Nicks: 10 (6 and 2 on its outer edges, and 2 on the straight cut end). L 1.6; W 1.6; T 0.3cm. Wt 5.99g (drilled).

1:492 Silver band arm-ring edge-fragment (MME: 1841,0711.292)

Severed on three sides, with a cracked original outer edge (**Pl. 24**); the remains of the stamped decoration consist of five oblique parallel impressions, to one side of a vertical impression, using a multi-point bar-stamp, with eight irregular elements (**Fig. 8.1,19**).

Nicks: 2. L 2.0; W 1.2; T 0.3cm. Wt 5.83g.

1:493 Silver band arm-ring edge fragment (MME: 1841,0711.293)

Severed on three sides from the front, at an oblique angle across the lower edge, leaving the remains of a single vertical stamped decoration (**Pl. 24**), consisting of two impressions from a short bar-stamp with five broad, rounded elements (**Fig. 8.1,20**); three oblique parallel cuts extend part way across the reverse.

Nicks: 4. L 0.7; W 1.3; T 0.35cm. Wt 2.35g.

1:494 Silver band penannular arm-ring, terminal fragment (MME: 1841,0711.294)

Severed from the back, the terminal has a sub-rectangular end, with one angle rounded (**Pl. 24**); it is decorated with a row of vertical transverse stamping, using a multi-point bar-stamp, with a minimum of five angular elements (**Fig. 8.1,21**).

Nicks: 7. L 0.85; W 0.8; T 0.2cm. Wt 1.01g.

1:495 Silver band penannular arm-ring, terminal fragment (MME: 1841,0711.295)

Cleanly severed, the terminal has a rounded end and is in excellent condition (**Pl. 24**); it is decorated with a row of vertical transverse impressions from an elongated Z-shaped stamp (**Fig. 8.4,8**).

Nicks: 2. L 1.3; W 1.05; T 0.15cm. Wt 1.53g.

1:496 Silver band arm-ring fragment (MME: 1841,0711.296)

Severed at both ends from the back, defacing the decoration on the front (**Pl. 24**), which consists of the remains of a row of vertical transverse stamping, using a bar with serrated edges and a plain centre (**Fig. 8.1,66**).

Nicks: 5. L 0.8; W 1.5; T 0.4cm. Wt 3.43g.

1:497 Silver band arm-ring edge-fragment (MME: 1841,0711.297)

Severed on three sides from the back, defacing the decoration on the front (**Pl. 24**), which consists of the remains of a row of vertical zigzag stamping, now too incomplete and distorted for adequate recording.

Nicks: 2. L 1.1; W 0.8; T 0.3cm. Wt 1.86g.

1:498 Silver band arm-ring fragment (MME: 1841,0711.298)

Severed at both ends from a tapered band (**Fig. 5.11**, no. 17; **Pl. 24**); it has a row of vertical transverse stamping, using a bar with serrated edges and a central line (**Fig. 8.1,80**).

Nicks: 9. L 2.5; W 0.9–0.75; T 0.2cm. Wt 2.93g.

Hawkins 1847, 115, fig. 17.

1:499 Silver band arm-ring fragment (MME: 1841,0711.299)

Severed at both ends, it is decorated with a row of vertical transverse stamping (**Pl. 24**), using a zigzag bar (**Fig. 8.1,23**).

Nicks: 4 (2 pairs, one on each of its outer edges). L 1.0; W 1.4; T 0.2cm. Wt 2.85g.

1:500 Silver band arm-ring fragment (MME: 1841,0711.300)

Broken at one end and severed obliquely at the other (**Pl. 24**), it is decorated with a row of vertical transverse stamping, using a bar with serrated edges (although not all elements are linked) and a plain centre (**Fig. 8.1,67**).

Nicks: 11 (6 and 4 on the outer edges, and 1 on the cut end). L 1.3; W 1.2; T 0.3cm. Wt 3.14g.

1:501 Silver band arm-ring fragment (MME: 1841,0711.301)

Severed at both ends from the front, although there is a transverse cut across the back which may relate to the battering of the front which has obscured the detail of the decoration (**Pl. 24**); this consists of a row of vertical transverse stamping, using a bar of zigzag type.

Nicks: 1. L 1.0; W 1.05; T 0.25cm. Wt 1.82g.

1:502 Silver band arm-ring edge-fragment (MME: 1841,0711.302)

Severed on three sides from the back, with a parallel cut across the narrower end (**Pl. 24**); the only remaining decoration is an oblique impression from a bar-stamp with serrated edges, in the form of paired triangles (unlinked), and a plain centre (**Fig. 8.1,68**).

Nicks: 6. L 1.3; W 0.8; T 0.2cm. Wt 1.80g.

1:503 Silver band arm-ring fragment (MME: 1841,0711.303)

Severed at both ends, each with two oblique strokes (**Pl. 24**); all that remains of the decoration are two oblique impressions, forming a chevron, of a bar-stamp with one serrated edge and the other billeted, with a plain centre (**Fig. 8.1,69**), as **1:526**.

Nicks: 3. L 1.3; W 1.4; T 0.25cm. Wt 3.06g.

1:504 Silver band arm-ring fragment (MME: 1841,0711.304)

Severed at both ends from a thick tapered band, with a cracked outer edge (**Pl. 24**); it is decorated with a row of vertical transverse stamping, using a bar-stamp with curving serrated edges and a plain centre (**Fig. 8.1,70**).

Nicks: 8. L 1.5; W 1.4–1.2; T 0.4cm. Wt 5.99g.

1:505 Silver band arm-ring fragment (MME: 1841,0711.305)

The expanded mid-portion of an arm-ring, severed straight across at one end from the front and obliquely from the back at the other, with the resulting angle clipped off; there is a crack in the outer edge (**Pl. 24**). It is decorated with a series of impressions forming a central diagonal cross, between the remains of two verticals, from a double V-shaped stamp, the outer V consisting of three elements (**Fig. 8.4,5**).

Nicks: 9. L 3.3; W 1.8–1.6; T 0.3cm. Wt 12.16g.

Hawkins 1847, 119, fig. 44.

1:506 Silver band arm-ring fragment (MME: 1841,0711.307)

Severed at both ends from a tapered band, although otherwise in good condition with neatly executed decoration (**Fig. 5.12**, no. 23; **Pl. 24**), using a perfectly shaped ring-stamp (**Fig. 8.3,18**). Its decoration consists of a border row of stamps along both outer edges, combined with diagonals to form a row of lozenges, the centre of each being filled with a cluster of four impressions and with the triangular spaces between containing three impressions.

Nicks: 1. L 2.7; W 2.2–1.8; T 0.15cm. Wt 6.51g.

Hawkins 1847, 116, fig. 23.

1:507 Silver band arm-ring fragment (MME: 1841,0711.308)

Bent and severed at both ends, each with two strokes, from a tapered band (**Pl. 24**); it is decorated with three longitudinal rows, increasing to five at the wider end, of an opposed (conjoined) sub-triangular stamp, both of the polygonal elements containing a pellet (**Fig. 8.2,90**).

Nicks: 3. L 2.3; W 2.4–1.9; T 0.2cm. Wt 9.33g.

1:508 Silver band arm-ring edge-fragment (MME: 1841,0711.309)

Severed on three sides, with a parallel cut on the reverse of the narrower end (**Fig. 5.12**, no. 24; **Pl. 24**); it is decorated with a border row of a plain opposed (unlinked) triangle stamp (**Fig. 8.2,77**), impressed vertically, framing a pattern of intersecting rows of an ovoid ring-stamp (**Fig. 8.3,19**).

Nicks: 3. L 2.0; W 1.3; T 0.25cm. Wt 5.09g.

Hawkins 1847, 116, fig. 24.

1:509 Silver band arm-ring edge-fragment (MME: 1841,0711.310)

Irregularly shaped, with one cut and three broken sides, its surface is cut and scratched, with the original outer edge being heavily nicked (**Pl. 24**); the remains of its decoration consists of four vertical/three horizontal rows of an ovoid ring-stamp (**Fig. 8.3,20**), imperfectly impressed.

Nicks: 12 (all on the outer edge). L 2.0; W 1.2; T 0.1cm. Wt 1.78g.

1:510 Silver band arm-ring edge-fragment (MME: 1841,0711.311)

Severed on three sides (**Pl. 24**); there are the remains of four impressions from a ring-stamp (**Fig. 8.3,21**), irregularly applied.

Nicks: 5. L 1.0; W 1.0; T 0.1cm. Wt 0.87g.

1:511–12 Two silver band arm-ring fragments (MME: 1841,0711.312)

Both flattened and severed at both ends, they together comprise the expanded mid-portion and slightly tapered side of an arm-ring, cut into two (**Pl. 25**). The larger piece (**1:511**; **Fig. 5.11**, no. 13) is decorated with a (central) diagonal cross and a vertical transverse row of plain bar-stamping, the bar having a distinctive fault on one side (**Fig. 8.1,5**); in addition, a plain circular pellet (**Fig. 8.3,1**) has been stamped between each arm of the cross. These two fragments are linked not only by the nature and arrangement of their stamping, but also by measurement, for the actual cutting and snapping of the band removed the direct evidence for their join. They thus form two separate pieces of hack-silver in the hoard; both are in good condition, and only **1:511** has been nicked.

(**1:511**) Nicks: 1. L 6.3; W 1.3–0.8; T 0.2cm. Wt 9.39g. (**1:512**) Nicks: 0. L 2.7; W 0.8–0.7; T 0.2cm. Wt 2.91g.

Hawkins 1847, 114, fig. 13; Bjørn and Shetelig 1940, fig. 12 (both illustrating only **1:511**).

1:513 Silver band arm-ring fragment (MME: 1841,0711.313)

Flattened and severed at both ends from a tapered band, one having been bent back first and the other cut with two strokes (**Pl. 25**); it is decorated with a row of vertical transverse stamping, using a zigzag bar-stamp (**Fig. 8.1,24**).

Nicks: 3. L 5.1; W 1.8–1.4; T 0.3cm. Wt 20.91g.

1:514 Silver band arm-ring fragment (MME: 1841,0711.314)

Severed at both ends, one with three strokes, from a tapered band (**Fig. 5.11**, no. 15; **Pl. 25**); it is decorated with a row of vertical transverse stamping, using a poorly executed, zigzag bar-stamp (**Fig. 8.1,25**).

Nicks: 2. L 2.7; W 1.95–1.7; T 0.3cm. Wt 11.93g.

Hawkins 1847, 115, fig. 15.

1:515 Silver band arm-ring fragment (MME: 1841,0711.315)

The expanded mid-portion of an arm-ring, cut at one end and broken at the other, with some cracking of the outer edges (**Pl. 25**); it is decorated with a row of vertical transverse stamping, using a bar-stamp with serrated edges and a plain centre, having six (unlinked) elements on both sides (**Fig. 8.1,71**), with an extra impression at one end of both the two central impressions, using only an end pair of 'teeth', so as to completely fill the maximum width of the band.

Nicks: 2. L 2.3; W 1.7–1.5; T 0.2cm. Wt 4.37g.

1:516 Silver band arm-ring fragment (MME: 1841,0711.316)

Severed at both ends from a tapered band, the wider having a parallel cut on the reverse (**Pl. 25**); it is decorated with a row of vertical transverse stamping, using a wavy zigzag bar stamp which has a gap towards one of its ends (**Fig. 8.1,26**).

Nicks: 4 (2 on both inner angles). L 2.0; W 1.5–1.2; T 0.2cm. Wt 4.85g.

Hawkins 1847, 118, fig. 33.

1:517 Silver band arm-ring fragment (MME: 1841,0711.317)

Severed at both ends from the back, one with a light parallel cut (**Pl. 25**); it is decorated with a row of near vertical transverse stamping, using a bar-stamp with a serrated edge (**Fig. 8.1,61**).

Nicks: 2. L 2.0; W 1.6; T 0.35cm. Wt 8.86g (drilled).

1:518 Silver band arm-ring fragment (MME: 1841,0711.318)

The expanded mid-portion of an arm-ring, severed at both ends and heavily nicked (**Pl. 25**); it is decorated with a central diagonal cross, superimposed on a row of vertical transverse stamping, using a long (irregular) multi-point bar-stamp (**Fig. 8.1,12**).

Nicks: 20 (12 and 7 on the original outer edges, and 1 on a cut end). L 3.2; W 2.0–1.5; T 0.3cm. Wt 15.36g.

1:519 Silver band arm-ring fragment (MME: 1841,0711.319)

The expanded mid-portion and part of one tapered side of an arm-ring, severed at both ends and bent into a U-shaped loop; it is in rather battered condition, with considerable nicking (**Pl. 25**). Its decoration consists of a central diagonal cross, comprising four impressions, and a row of vertical stamping, both from a lattice bar-stamp, containing a row of three pellets; hammering of the band edges has distorted the ends of this neatly executed stamp, but nevertheless it is most probably complete as illustrated (**Fig. 8.1,51**; cf. **1:568**).

Nicks: 12 (7 and 5 on the original outer edges). L 3.4; W 1.8–0.9; T 0.3cm. Wt 18.92g (drilled).

1:520 Silver band arm-ring edge-fragment (MME: 1841,0711.320)

Severed on three sides, the lower edge being broken with a parallel cut on the reverse (**Pl. 25**); the decoration consists of the remains of two impressions from a lattice bar-stamp (**Fig. 8.1,55**), one vertical and one diagonal, meeting at the original outer edge of the band, with the addition of a row of small plain, outward-pointing, triangular punch marks along the outer edge of the vertical impression.

Nicks: 9. L 1.4; W 1.7; T 0.2cm. Wt 3.54g.

1:521 Silver band arm-ring fragment (MME: 1841,0711.321)

Flattened and severed at both ends; it includes part of the expanded mid-portion of the ring, tapering to one side (**Fig. 5.12**, no. 36; **Pl. 25**). What remains of the central area is decorated with the beginnings of two rows of interlocking triangles, the triangular stamp containing three pellets (**Fig. 8.2,11**); the rest of the band is decorated with a row of vertical transverse stamping, using a complex lattice stamp (**Fig. 8.1,56**).

Nicks: 5 (3 and 2 on the original outer edges). L 4.7; W 1.8–1.4; T 0.2cm. Wt 12.43g.

Hawkins 1847, 118, fig. 36.

1:522 Silver band penannular arm-ring, terminal fragment (MME: 1841,0711.322)

Thin band, broken at one end, with a rectangular terminal (**Pl. 25**); it is decorated with a row of vertical transverse stamping, using a short lattice stamp (**Fig. 8.1,57**), which is part repeated to complete the width.

Nicks: 0. L 1.7; W 1.7; T 0.1cm. Wt 2.45g.

1:523 Silver band arm-ring edge-fragment (MME: 1841,0711.323)

Triangular fragment of thin band, severed on two sides, one along the line of a parallel (light) cut (**Pl. 25**); it is decorated with a row of vertical transverse stamping, using a lattice stamp (**Fig. 8.1,58**). There is a deep oblique cut across the reverse.

Nicks: 0. L 0.9; W 1.8; T 0.15cm. Wt 1.03g.

1:524 Silver band arm-ring fragment (MME: 1841,0711.324)

Expanded mid-portion of thin band, severed at both ends (**Pl. 25**); it is decorated with intersecting diagonal (V-shaped) lines, using a lattice stamp (**Fig. 8.1,59**).

Nicks: 0. L 3.3; W 3.2; T 0.12cm. Wt 11.66g.

1:525 Silver band arm-ring fragment (MME: 1841,0711.325)

Expanded mid-portion, cut across at one end (from both sides), but sheared twice obliquely at the other, with one angle clipped off (**Pl. 25**); it is decorated with a central diagonal cross and a row of vertical transverse stamping, using a bar-stamp which has serrated edges (unlinked) and a plain centre (**Fig. 8.1,72**).

Nicks: 7. L 2.7; W 1.8; T 0.25cm. Wt 9.25g.

1:526 Silver band arm-ring fragment (MME: 1841,0711.326)

Sub-rectangular fragment of tapered band, sheared at one end (with two cuts) and broken at the other (**Pl. 25**); it is decorated with a row of intersecting diagonal (V-shaped) lines, using a bar-stamp with one serrated edge (unlinked) and the other billeted, having a plain centre (**Fig. 8.1,73**), as **1:503**. It is heavily nicked for its size.

Nicks: 18. L 1.7; W 1.7; T 0.2cm. Wt 4.29g.

1:527 Silver band arm-ring fragment (MME: 1841,0711.327)

Part of the expanded mid-portion of a band severed across its mid-point (**Pl. 25**); it is decorated with a central diagonal cross and a row of vertical transverse stamping, using a bar-stamp with one serrated edge (unlinked) and the other solid (but defective), having a plain centre (**Fig. 8.1,74**).

Nicks: 8. L 2.2; W 1.8; T 0.2cm. Wt 6.61g.

1:528 Silver band penannular arm-ring, terminal fragment (MME: 1841,0711.328)

Severed fragment of tapered band, thickest at its plain sub-rectangular terminal (**Pl. 25**); it is decorated with a diagonal cross, using a bar-stamp with serrated edges and a plain centre (**Fig. 8.1,75**).

Nicks: 4. L 2.8; W 1.0–1.5; T (terminal) 0.5 (band) 0.3cm. Wt 10.51g (drilled).

1:529 Silver band arm-ring edge-fragment (MME: 1841,0711.329)

Severed on three sides (one with two cuts) from a thick band, with nicked outer edge (**Fig. 5.11**, no. 14; **Pl. 25**). Its decoration would have consisted of two longitudinal zigzag rows between three continuous parallel lines, using a bar-stamp with narrow serrated edges and a plain centre (**Fig. 8.1,76**). There is a parallel cut on the reverse where the band has been cut in half along the central line of the decoration.

Nicks: 3. L 2.65; W 1.5; T 0.35cm. Wt 9.81g (drilled).

Hawkins 1847, 114, fig. 14.

1:530 Silver band arm-ring fragment (MME: 1841,0711.330)

Part of the expanded mid-portion of a band severed across its mid-point (**Pl. 25**); it is decorated with the remains of a diagonal cross, incorporating a central vertical line, using an incomplete bar-stamp containing a row of pellets. It is heavily nicked for its size.

Nicks: 12 (6 on both its original edges). L 1.15; W 1.4; T 0.15cm. Wt 1.62g.

1:531 Silver band arm-ring edge-fragment (MME: 1841,0711.331)

Part of the mid-portion of a band severed on three sides, with a nicked outer edge (**Pl. 25**); it is decorated with the remains of a diagonal cross, together with traces of a vertical impression to one side, using a bar-stamp consisting of seven interlocking triangles, each containing a pellet (**Fig. 8.1,46**). There are two cuts (one deep) across the upper surface.

Nicks: 4. L 3.2; W 1.6; T 0.2cm. Wt 8.57g.

1:532 Silver band arm-ring fragment (MME: 1841,0711.332)

Severed at both ends, one with two cuts (**Fig. 5.12**, no. 30; **Pl. 25**); it is decorated with a row of vertical transverse stamping, using a bar-stamp consisting of at least six interlocking triangles, each containing a pellet (**Fig. 8.1,47**; cf. **1:555**).

Nicks: 2. L 1.4; W 1.45; T 0.15cm. Wt 2.36g.

Hawkins 1847, 117, fig. 30.

1:533 Silver band-band penannular arm-ring, terminal fragment (MME: 1841,0711.333)

Severed at one end from a narrow band, with a rounded terminal (**Fig. 5.12**, no. 31; **Pl. 25**); it is decorated with a row of vertical transverse stamping, using a bar-stamp consisting of a row of conjoined lozenges (on their sides), each containing a pellet (**Fig. 8.1,32**). It is the same size band, with the same bar-stamp as **1:534**; neither fragment is nicked.

Nicks: 0. L 1.1; W 0.8; T 0.2cm. Wt 1.19g.

Hawkins 1847, 117, fig. 31.

1:534 Silver band arm-ring fragment (MME: 1841,0711.334)

Severed at both ends from the same narrow band as **1:533**, with the same decoration (**Pl. 25**).

Nicks: 0. L 0.7; W 0.8; T 0.2cm. Wt 0.82g.

1:535 Silver band arm-ring fragment (MME: 1841,0711.335)

Severed at both ends from a narrow band, with partly flattened surface which has the remains of a vertical row of stamped decoration (**Pl. 25**), using a bar-stamp consisting of a row of conjoined polygonal elements each containing a pellet (**Fig. 8.1,33**; cf. **1:558**).

Nicks: 7. L 0.95; W 0.9; T 0.2cm. Wt 0.95g.

1:536 Silver band arm-ring fragment (MME: 1841,0711.336)

Severed at both ends from a thick band, decorated with two longitudinal rows of opposed, inward facing, triangles (**Pl. 25**), the stamp containing three pellets (**Fig. 8.2,12**).

Nicks: 9. L 1.8; W 1.5; T 0.4cm. Wt 8.30g.

1:537 Silver band arm-ring fragment (MME: 1841,0711.337)

Severed at both ends, one with two strokes, from a narrow band, with a slightly D-shaped section, decorated with four rows of pairs of interlocking, inward facing, triangles (**Fig. 5.12**, no. 25; **Pl. 26**), using a small stamp containing a vertical row of three pellets (**Fig. 8.2,13**).

Nicks: 2. L 1.15; W 1.25; T (centre) 0.3 (edge) 0.2cm. Wt 3.09g.

Hawkins 1847, 116, fig. 25.

1:538 Silver band arm-ring fragment (MME: 1841,0711.338)

Severed at both ends from a tapered (flattened) band, with two zones of stamped decoration (**Pl. 26**): that at the narrower end is arranged as a zigzag, commencing with a single vertical impression, using a bar-stamp with serrated edges and a central line (**Fig. 8.1,81**); the other consisting of two longitudinal rows of a pair of opposed (conjoined) triangles, with contour lines, both containing three pellets (**Fig. 8.2,103**; cf. **1:539**).

Nicks: 8. L 2.8; W 1.4–2.0; T 0.2cm. Wt 8.61g.

1:539 Silver band penannular arm-ring, terminal fragment (MME: 1841,0711.339)

Severed, with two strokes (one downwards from the edge), from a narrow band which tapers slightly to a sub-rectangular (and thicker) terminal, with stamped decoration (**Fig. 5.12**, no. 29; **Pl. 26**), consisting of the remains of a diagonal cross, ending with a single vertical impression, using a plain bar stamp (**Fig. 8.1,6**), combined with a second stamp, within the angles of the cross, in the form of a pair of opposed (conjoined) triangles, with contour lines, both containing three pellets (**Fig. 8.2,104**; cf. **1:538**).

Nicks: 9. L 1.6; W 0.9–1.1; T (terminal) 0.4 (band) 0.3cm. Wt 4.55g.

Hawkins 1847, 117, fig. 29.

1:540 Silver band arm-ring edge-fragment (MME: 1841,0711.341)

Sub-triangular fragment, severed on three sides from a thin band, with the remains of two longitudinal rows of stamped decoration (**Pl. 26**), using a stamp in the form of a pair of opposed (conjoined) triangles, both containing three pellets (**Fig. 8.2,98**).

Nicks: 2. L 1.4; W 1.5; T 0.25cm. Wt 1.48g.

1:541 Silver band arm-ring edge-fragment (MME: 1841,0711.343)

Sub-rectangular fragment severed on three sides from a thin band, with the remains of stamped decoration (**Pl. 26**), consisting of two longitudinal rows of interlocking triangles, containing three pellets (**Fig. 8.2,14**), although with only a slight trace of the lower row surviving.

Nicks: 0. L 0.6; W 0.7; T 0.15cm. Wt 0.45g.

1:542 Silver band arm-ring edge-fragment (MME: 1841,0711.344)

Severed on three sides from a thin band (with one end being irregularly cut and broken and the other cleanly cut; it is broken across the bottom, which is probably its centre), part flattened with multiple scoring on the reverse (**Pl. 26**); there are the remains of three longitudinal rows of stamped decoration, using a plain double (opposed) lozenge-shaped stamp (**Fig. 8.2,49**).

Nicks: 7 (6 on the original outer edge, and 1 on the cut end). L 2.15; W 1.7; T 0.1cm. Wt 3.10g.

1:543 Silver band arm-ring edge-fragment (MME: 1841,0711.345)

Severed on three sides from a thin band, with the remains of two longitudinal rows of stamped decoration (**Pl. 26**), using a plain 'dagger-shaped' stamp, pointing inwards (**Fig. 8.2,28**).

Nicks: 2 (on the original outer edge). L 1.0; W 1.5; T 0.1cm. Wt 1.21g.

1:544 Silver band arm-ring fragment (MME: 1841,0711.346)

Severed at both ends from a narrow, slightly tapered, band (**Pl. 26**); there are the remains of two zones of stamped decoration, the narrowest part of the band having a single longitudinal row, which is doubled at the wider end, using a plain opposed (unlinked) triangle stamp (**Fig. 8.2,78**). The nicking consists of two opposing pairs on the front and back of both original edges.

Nicks: 4. L 1.65; W 1.2–1.0; T 0.2cm. Wt 3.24g.

1:545 Silver band arm-ring edge-fragment (MME: 1841,0711.347)

Severed from behind on three sides, with a pair of parallel cuts on the reverse along the bottom edge, which is probably just below its centre (**Pl. 26**); there are the remains of three longitudinal rows of stamped decoration, using two plain 'hour-glass' stamps of different sizes (**Fig. 8.2,50–1**), the smaller being used for the central row.

Nicks: 9. L 1.1; W 1.0; T 0.2cm. Wt 1.51g.

1:546 Silver band arm-ring edge-fragment (MME: 1841,0711.348)

Triangular fragment severed on two sides, with the remains of a longitudinal row of stamped decoration along its original outer edge (**Pl. 26**), using a plain opposed (conjoined) triangle stamp (**Fig. 8.2,52**).

Nicks: 7. L 1.1; W 1.0; T 0.25cm. Wt 1.10g.

1:547 Silver band arm-ring edge-fragment (MME: 1841,0711.350)

Severed on three sides from the mid-portion of a band with a slightly curved original edge (**Pl. 26**); the decoration consists of the remains of a diagonal cross, with its centre open, using a lattice stamp (**Fig. 8.1,60**). It is heavily nicked for its size, with six on its original edge (three on each angle), together with three and two on the cut ends.

Nicks: 11. L 1.7; W 1.6; T 0.2cm. Wt 4.33g.

1:548 Silver band arm-ring fragment (MME: 1841,0711.716)

Large fragment of arm-ring (still curved), severed at both ends, consisting of the mid-portion and part of both sides of a narrow band with an expanded centre; it has a complex scheme of stamped decoration, in seven zones (**Pl. 26**), using an opposed (unlinked) triangular stamp (**Fig. 8.2,79**). The central zone consists of three vertical rows (each of four impressions), using the stamp on its side, which is repeated at both narrow ends (with three impressions in each row); on either side of the central zone, the stamp is used vertically to form two longitudinal rows (of four impressions each on one side and three on the other), which is then reduced to a single row (with ten impressions on one side and six on the other). There are 54 impressions, although not all the original decoration is present on this fragment. Its outer face is scratched.

Nicks: 12 (6 along both the outer edges, all more or less opposed to each other). L 7.6; W 1.5–1.0; T 0.12cm. Wt 11.15g.

1:549 Silver band arm-ring fragment (AC: 78)

Severed at both ends, this substantial fragment consists of the mid-portion and most of one side of a flattened arm-ring, with an expanded centre (**Pl. 27**); its stamped decoration consists of a central diagonal cross, with a vertical transverse row to either side, using a zigzag bar-stamp (**Fig. 8.1,27**). There is a painted 'Duchy' weight on the reverse.

Nicks: 12. L 8.8; W 1.5–1.0; T 0.3cm. Wt 26.74g.

1:550 Silver band penannular arm-ring, terminal fragment (AC: 81)

Severed from a band which tapers to a rectangular terminal, with stamped decoration (**Pl. 27**), consisting of a diagonal cross, between a single vertical transverse row and a single impression of a zigzag bar-stamp (**Fig. 8.1,28**). There is a painted 'Duchy' weight on the reverse.

Nicks: 2. L 3.3; W 1.1–1.5; T 0.3cm. Wt 10.98g.

1:551 Silver band arm-ring fragment (AC: 83)

Severed at both ends from a narrow flattened band, decorated with a vertical transverse row of stamped decoration (**Pl. 27**), using a bar-stamp containing a row of five pellets (**Fig. 8.1,43**). There is a painted 'Duchy' weight on the reverse.

Nicks: 7. L 5.2; W 0.7; T 0.2cm. Wt 6.85g.

1:552 Silver band arm-ring fragment (AC: 84)

Severed at both ends from a narrow flattened band, decorated with two longitudinal rows of opposed, inward facing, triangles (**Pl. 27**), using a rounded triangular stamp containing three large pellets (**Fig. 8.2,15**)

Nicks: 4. L 2.7; W 1.5; T 0.2cm. Wt 5.26g.

1:553 Silver band arm-ring fragment (AC: 87)

Severed at both ends from a thick band, with much of its two outer edges cut away and three transverse cuts across the reverse, from the mid-portion of a thick band arm-ring, with stamped decoration (**Pl. 27**); this now consists of half a diagonal cross, with a central vertical transverse bar, beside a vertical transverse row of a bar-stamp with serrated edges and a plain centre (**Fig. 8.1,77**). There is a painted 'Duchy' weight on the reverse.

Nicks: 6. L 2.2; W 1.7; T 0.25cm. Wt 10.53g.

1:554 Silver band arm-ring edge-fragment (AC: 89)

Severed on three sides from a thick band, with the remains of stamped decoration (**Pl. 27**), in the form of a vertical transverse row of a bar-stamp with serrated edges and a plain centre (**Fig. 8.1,78**). There is an oblique cut across the front, towards one end, and a painted 'Duchy' weight on the reverse.

Nicks: 2. L 1.3; W 1.1; T 0.4cm. Wt 3.94g.

1:555 Silver band penannular arm-ring, terminal fragment (AC: 90)

Severed at one end from a narrow band, tapering to a rounded terminal (**Pl. 27**); it is decorated with a row of vertical transverse stamping, using a bar-stamp consisting of at least four interlocking triangles, each containing an irregular pellet (**Fig. 8.1,48**; cf. **1:532**). There is a painted 'Duchy' weight on the reverse.

Nicks: 3. L 1.2; W 0.6–0.8; T 0.14-0.2cm. Wt 1.18g.

1:556 Silver band arm-ring fragment (AC: 92)

Worn rectangular fragment, severed at both ends from a thick band, with a row of vertical transverse stamping (**Pl. 27**), using a bar-stamp containing a row of at least seven pellets (**Fig. 8.1,44**). There is a painted 'Duchy' weight on the reverse.

Nicks: 6. L 1.0; W 1.5; T 0.4cm. Wt 4.22g.

1:557 Silver band arm-ring fragment (AC: 93)

Severed at both ends from a slightly tapered band, decorated with two longitudinal rows of stamping (**Pl. 27**), using an 'hour-glass' stamp formed from a connected pair of rings (**Fig. 8.2,112**). There is a painted 'Duchy' weight on the reverse.

Nicks: 1. L 1.2; W 1.5–1.4; T 0.2cm. Wt 2.72g.

1:558 Silver band arm-ring fragment (AC: 94)

Severed at both ends from a narrow band which has a vertical transverse row of stamped decoration (**Pl. 27**), using a bar-stamp consisting of a row of irregular lozenges, each containing a pellet (**Fig. 8.1,35**; cf. **1:535**). There is a painted 'Duchy' weight on the reverse.

Nicks: 4. L 2.4; W 0.9; T 0.2cm. Wt 2.69g.

1:559 Silver band arm-ring fragment (AC: 95)

Severed at both ends from the side-part of a tapered band arm-ring, bent up at the narrow end which is decorated with a transverse vertical row of stamping and a diagonal cross with a central transverse bar (**Pl. 27**), using an irregular zigzag bar-stamp (**Fig. 8.1,29**). There is a painted 'Duchy' weight on the reverse.

Nicks: 11. L 2.6; W 0.9–1.2; T 0.2–0.25cm. Wt 5.65g.

1:560 Silver band arm-ring fragment (AC: 97)

Severed at both ends from a tapered band, decorated with a zigzag row of stamping (**Pl. 27**), using a bar-stamp with serrated edges and a central line (**Fig. 8.1,82**). There is a painted 'Duchy' weight on the reverse.

Nicks: 6. L 2.8; W 1.1–1.4; T 0.2cm. Wt 5.08g.

1:561 Silver band penannular arm-ring, terminal fragment (LM: 53.114.35)

Cut from a thick band which tapers slightly to a rectangular terminal, the other being bent up and cleanly severed, with a parallel cut (**Pl. 27**); it has three longitudinal rows of stamped decoration, using a distinctive S-shaped stamp, with one ring-shaped end (**Fig. 8.1,113**). There is a circular spot of (dark) discoloration (D 0.7cm), on the reverse, as on **1:562**.

Nicks: 0. L 5.4; W 1.5–1.8; T 0.25–0.35cm. Wt 24.85g.

Nelson collection, no. 35: Shetelig 1954, fig. 85.

1:562 Silver band penannular arm-ring, terminal fragment (LM: 53.114.36)

Cut, with an oblique stroke, from a thick band which tapers slightly to a plain rectangular terminal (**Pl. 27**); there are the remains of a row of transverse stamping, with a plain bar-stamp (two incomplete impressions). The shorter of the outer edges is battered and pecked, with one deep nick; amongst the other seven nicks are two pairs on both angles

of the original end. There is the same spot of discoloration as on the reverse of **1:561**.

Nicks: 8. L 1.5; W 1.4–1.5; T 0.4cm. Wt 5.09g.

XRF-analysis by Susan Kruse and James Tate (1992): 'silver'= 93.9%
Ag: 93.0%; Cu: 5.8%; Zn: 0.1%; Au: 0.6%; Pb: 0.4%; Bi: nd; Sn: tr; Au per 100 Ag: 0.66%

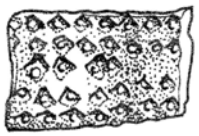
Nelson collection, no. 36: Shetelig 1954, fig. 85; Kruse and Tate 1992, 320.

1:563 Silver band arm-ring-fragment (AM: 1909.540)

Severed at both ends from a slightly tapered band (**Cat. Fig. 16**; **Pl. 27**), with three longitudinal rows of stamped decoration, using a stamp consisting of a pair of opposed lozenge-shaped elements, both containing a single pellet (**Fig. 8.2,91**). The outer rows are both vertical, whereas the central row is longitudinal (only commencing where the band has expanded sufficiently to make space for it).

Nicks: 2. L 2.4; W 1.4–1.5; T 0.3cm. Wt 7.82g.

Evans collection: Thompson 1956, pl. xii,a.



Cat. Figure 16 Fragment from a broad-band penannular arm-ring (**1:563**), with stamped decoration (Ashmolean Museum)

1:564 Silver band penannular arm-ring, terminal fragment (AM: 1909.541)

Severed from a narrow flattened band which tapers slightly to a plain rounded terminal, with a vertical row of plain bar-stamped decoration, irregularly spaced and terminating in a diagonal cross (**Cat. Fig. 17**; **Pl. 27**).

Nicks: 3. L 5.0; W 0.5–0.9; T 0.15–0.2cm. Wt 6.39g.

Evans collection: Thompson 1956, pl. xii,a.

Cat. Figure 17 Terminal fragment of a broad-band arm-ring (**1:564**), with stamped decoration (Ashmolean Museum)

1:565 Silver band arm-ring fragment (AM: 1909.543)

Much hammered, bent and cut, band fragment, perhaps from a terminal (**Pl. 27**), with seemingly random stamped decoration, using a rounded triangular stamp containing three pellets (**Fig. 8.2,16**).

Nicks: 3. L 2.1; W 1.9; T 0.3cm. Wt 10.47g.

Evans collection: Thompson 1956, pl. xii,a.

1:566 Silver band arm-ring fragment (AM: 1909.546)

Severed at both ends from a slightly tapered band (**Pl. 27**), with a vertical row of stamped decoration, using a bar-stamp containing a wavy row of nine pellets (**Fig. 8.1,45**).

Nicks: 3. L 1.0; W 1.45–1.55; T 0.2cm. Wt 2.73g.

Evans collection: Thompson 1956, pl. xii,a.

1:567 Silver band arm-ring fragment (AM: 1909.547)

Severed at both ends from a narrow tapered band (**Pl. 27**), with a vertical row of stamped decoration, using a bar-stamp consisting of a row of conjoined lozenges (on their sides), each containing a single pellet (**Fig. 8.1,34**).

Nicks: 0. L 2.2; W 0.75–0.9; T 0.25–0.3cm. Wt 3.99g.

Evans collection: Thompson 1956, pl. xii,a.

1:568 Silver band arm-ring edge-fragment (AM: 1909.548)

Severed on three sides (**Pl. 27**), with the remains of a vertical row of stamped decoration, using an incomplete lattice-stamp containing a row of pellets (**Fig. 8.1,52**); cf. **1:519**.

Nicks: 3. L 1.3; W 0.8; T 0.3cm. Wt 2.11g.

Evans collection: Thompson 1956, pl. xii,a.

1:569 Silver band arm-ring edge-fragment (AM: 1909.549)

Triangular fragment severed with two oblique strokes from near the mid-portion of one edge of a thick band (**Pl. 27**), with the remains of stamped decoration, consisting of a broad groove from a diagonal cross beside a vertical impression from a pelleted bar-stamp.
Nicks: 5. L 1.2; W 1.0; T 0.45cm. Wt 2.22g.

XRF-analysis by Fiona Macalister (1992): 'silver' = 96.4%
Ag: 95.1%; Cu: 3.6%; Zn: 0.0%; Au: 0.2%; Pb: 1.1%; Bi: 0.0%; Sn: 0.0%; Au per 100 Ag: 0.2%

Evans collection: Thompson 1956, pl. xii,a; Macalister in Kruse and Tate 1992, 324–5.

4. Plain band arm-rings (1:570–3), and fragments (1:574–663 and 1,125–9)

1:570 Silver band penannular arm-ring (MME: 1847,0711.236)

Complete arm-ring, with both ends hammered inwards to form a figure-of-eight loop, but otherwise in good condition; it has an expanded centre, tapering to rounded terminals (**Pl. 28**).

Nicks: 1. L 9.7; W 2.7–1.3/1.2; T 0.2–0.3/0.2cm. Wt 105.86g (drilled).

XRF-analysis: BMRL (File 5935), by Janet Lang (1991).
Ag: 97%; Cu: 1.8%; Pb: 0.5%; Au: 0.6%

1:571 Silver band penannular arm-ring (MME: 1847,0711.237)

Complete arm-ring, with both ends hammered inwards to form a figure-of-eight loop; it has an expanded centre, tapering to rounded terminals (**Fig. 5.11**, no. 11; **Pl. 28**).

Nicks: 2. L 5.8; W 1.6–0.6; T 0.2cm. Wt 26.39g.

Hawkins 1847, 113, fig. 11.

1:572 Silver band penannular arm-ring (MME: 1847,0711.238)

Complete arm-ring, with both ends hammered inwards; it is small, with a slightly expanded centre, tapering to rounded terminals (**Pl. 28**).

Nicks: 1. L 4.5; W 1.25–0.9; T 0.2cm. Wt 15.86g.

1:573 Silver band annular arm-ring (MME: 1847,0711.242)

Almost complete arm-ring, bent out of shape and severed at one end, the other being a complete twisted terminal; it tapers continuously to rod-shaped ends from its slightly expanded centre (**Pl. 28**). In poor condition, with heavy nicking.

Nicks: 12. L 7.0; W 1.05–0.1; T 0.2cm. Wt 13.66g.

1:574 Silver band (?)penannular arm-ring fragment (MME: 1847,0711.243)

Narrow band tapering to one end, which is straight and could be a terminal (the ring being crudely finished), whereas the wider end is obliquely severed; bent into a loop (**Pl. 28**).

Nicks: 1. L 5.2; W 0.5–0.25; T 0.15cm. Wt 9.17g.

1:575 Silver band annular arm-ring, terminal fragment (MME: 1847,0711.351)

Broad flat band tapering to a straight terminal, the other end having been cleanly severed at what would appear to have been the mid-point of a band which seems never to have been bent into shape (**Pl. 28**). Its good surface condition supports the suggestion that this fragment derives from an unfinished ring.

Nicks: 2 (opposite each other). L 7.9; W 2.4–1.4; T 0.3–0.2cm. Wt 43.05g (drilled).

1:576 Silver band arm-ring fragment (MME: 1847,0711.352)

Mid-portion of a tapered band, severed at both ends, one of which is bent back, with a deep parallel cut into one edge; it is otherwise flattened (**Pl. 28**). Heavily nicked, with eleven along one edge and ten on the other.

Nicks: 21. L 6.35; W 1.7–1.55; T 0.3cm. Wt 30.72g (drilled).

1:577 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.353)

Severed at one end (with a parallel cut part way across) from a tapered band with a straight terminal; flattened (**Pl. 29**). Extensive nicking includes a group of five pecks on one side.

Nicks: 10. L 5.6; W 1.5–0.9; T 0.2cm. Wt 13.45g.

1:578 Silver band annular arm-ring fragment (MME: 1847,0711.354)

Narrow band which tapers to a rod-shaped end from which the (twisted) terminal has been cut; severed across what would appear to have been its mid-point, with the 'terminal' end being bent back (**Pl. 29**). Its heavy nicking includes a pair of pecks on the outer face.

Nicks: 12. L 6.1; W 1.0–0.25; T 0.25cm. Wt 11.97g.

1:579 Silver band annular arm-ring fragment (MME: 1847,0711.355)

Tapered band severed at both ends, the wider appearing to be the mid-point, with the other reducing to a rod (to become a twisted terminal); bent into a loop (**Pl. 29**).

Nicks: 2. L 5.3; W 1.55–0.55; T 0.3–0.2cm. Wt 26.00g.

1:580 Silver band annular arm-ring fragment (MME: 1841,07,11,356)

Narrow tapered band severed at both ends, with one tapered to a rod (for a twisted terminal); bent into a loop (**Pl. 29**). Somewhat crudely finished, but with no nicking.

Nicks: 0. L 4.0; W 0.5–0.15; T 0.2–0.1cm. Wt 5.13g.

1:581 Silver band arm-ring fragment (MME: 1847,0711.357)

Severed at both ends from a narrow tapered band; folded into a U-shaped loop (**Pl. 29**).

Nicks: 5. L 3.5; W 1.05–0.85; T 0.2cm. Wt 8.49g.

1:582 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.358)

Severed at one end from a tapered band with a rounded terminal, which has been bent back (**Pl. 29**).

Nicks: 4. L 4.1; W 1.0–0.6; T 0.2cm. Wt 7.05g.

1:583 Silver band arm-ring fragment (MME: 1847,0711.360)

Severed at both ends from a narrow tapered band, with three parallel cuts across the inner face of the wider end; bent into a loop (**Pl. 29**).

Nicks: 8 (4 on both outer angles). L 2.0; W 1.1–0.85; T 0.2–0.25cm. Wt 7.52g.

1:584 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.362)

Severed at one end from a narrow band, which tapers to a rounded terminal; flattened (**Pl. 29**).

Nicks: 5. L 3.5; W 0.75–0.6; T 0.2cm. Wt 4.09g.

1:585 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.363)

Severed at one end from a narrow band, which tapers to a rounded terminal; somewhat bent, maybe after flattening (**Pl. 29**).

Nicks: 1. L 3.8; W 0.85–0.6; T 0.1cm. Wt 2.66g.

1:586 Silver band arm-ring fragment (MME: 1847,0711.364)

Severed at both ends from a narrow band; flattened (**Pl. 29**).

Nicks: 2. L 4.5; W 0.95; T 0.2cm. Wt 7.98g.

1:587 Silver band arm-ring fragment (MME: 1847,0711.365)

Severed at both ends from a tapered band; flattened (**Pl. 29**).

Nicks: 6. L 3.35; W 1.05–0.951; T 0.2cm. Wt 5.66g.

1:588 Silver band arm-ring fragment (MME: 1847,0711.367)

Severed at both ends (one of which is bent up) from a slightly tapered band (**Pl. 29**).

Nicks: 2. L 2.1; W 1.3–1.0; T 0.3cm. Wt 6.70g.

1:589 Silver band arm-ring fragment (MME: 1847,0711.368)

Severed at both ends from a tapered band; flattened, but with a kink (**Pl. 29**).

Nicks: 6. L 3.4; W 1.6–1.2; T 0.3cm. Wt 12.35g.

1:590 Silver band arm-ring fragment (MME: 1847,0711.369)

Severed at both ends from a slightly tapered band, the wider end being cut from one edge (with two deep parallel cuts), and the other with two blows (both from the same side); flattened (**Pl. 29**). Its heavy nicking includes four pairs of pecks on one side and a single peck on the other.

Nicks: 19 (including 9 pecks). L 3.6; W 1.2; T 0.25cm. Wt 9.19g.

1:591 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.370)

Severed at one end, and in half (along its length), from a wide band with a rounded terminal (**Pl. 29**).

Nicks: 1. L 2.6; W 1.1; T 0.1cm. Wt 3.15g.

1:592 Silver band arm-ring fragment (MME: 1847,0711.371)

Severed at both ends from a narrow tapered band; flattened (**Pl. 29**).

Nicks: 5. L 3.4; W 0.9–0.8; T 0.35–0.3cm. Wt 9.37g.

1:593 Silver band arm-ring fragment (MME: 1847,0711.372)

Severed at both ends from near the expanded mid-point of a wide band (**Pl. 29**). The smooth outer face is finely finished, unlike the inner, but there are no apparent 'traces of ornament' as noted in the Register.

Nicks: 5. L 1.3; W 2.7–2.3; T 0.2cm. Wt 6.61g.

1:594 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.373)

Severed at one end from a narrow band, which tapers to a straight terminal; slightly bent (**Pl. 29**).

Nicks: 6. L 2.0; W 0.7–0.55; T 0.2–0.15cm. Wt 2.17g.

1:595 Silver band arm-ring fragment (MME: 1847,0711.374)

Severed at both ends from a tapered band, the wider bent in (with a parallel cut); some light cuts across the outer face (**Pl. 29**).

Nicks: 2. L 2.0; W 1.4–1.2; T 0.3–0.35cm. Wt 8.83g.

1:596 Silver band arm-ring fragment (MME: 1847,0711.376)

Severed at both ends from a tapered band; flattened, but bent up at one end (**Pl. 29**).

Nicks: 1. L 2.5; W 1.4–1.2; T 0.2cm. Wt 5.38g.

1:597 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.377)

Severed at one end from a narrow band with a sub-rectangular terminal, at a slight angle, which is slightly wider than the cut/broken end from differential hammering of the edges (**Pl. 29**).

Nicks: 6. L 2.5; W 0.9–0.8; T 0.3cm. Wt 6.35g.

1:598 Silver band arm-ring fragment (MME: 1847,0711.379)

Severed at both ends from a tapered band, with two parallel cuts across one face at the wider; flattened (**Pl. 29**). Heavily nicked for its size, with nine across the angles and edges of both sides.

Nicks: 18. L 2.2; W 1.5–1.1; T 0.2cm. Wt 5.12g.

1:599 Silver band arm-ring fragment (MME: 1847,0711.380)

Severed at both ends from a slightly tapered thick band; flattened (**Pl. 29**).

Nicks: 8. L 2.1; W 1.15–1.0; T 0.45cm. Wt 9.33g.

1:600 Silver band arm-ring fragment (MME: 1847,0711.381)

Severed at both ends from a tapered band, with a dented surface; flattened (**Pl. 29**).

Nicks: 7. L 2.4; W 1.7–1.4; T 0.2cm. Wt 6.72g.

1:601 Silver band arm-ring fragment (MME: 1847,0711.382)

Severed at both ends from a slightly tapered band; flattened (**Pl. 29**). Extensively nicked, with five across the angles and edges of both sides.

Nicks: 10. L 2.3; W 1.5–1.4; T 0.2cm. Wt 7.09g.

1:602 Silver band arm-ring fragment (MME: 1847,0711.383)

Severed at both ends from a slightly tapered band, with two cuts at the wider; flattened (**Pl. 29**).

Nicks: 6. L 2.0; W 1.6–1.4; T 0.3cm. Wt 7.68g.

1:603 Silver band arm-ring fragment (MME: 1847,0711.387)

Severed at both ends from a slightly tapered band, the wider being broken and the other having two parallel cuts on the reverse; curved, but distorted, with edge cracking (**Pl. 29**).

Nicks: 6. L 1.7; W 1.4–1.3; T 0.3cm. Wt 5.83g.

1:604 Silver band arm-ring fragment (MME: 1847,0711.390)

Severed at both ends from a slightly tapered band, with cut marks on the reverse; slightly curved (**Pl. 29**).

Nicks: 4. L 1.8; W 1.8–1.6; T 0.3cm. Wt 6.67g.

1:605 Silver band arm-ring fragment (MME: 1847,0711.391)

Severed at both ends from a slightly tapered band, with parallel cuts on the reverse at one end; slightly curved, with a cracked edge (**Pl. 29**).

Nicks: 6. L 1.5; W 1.6–1.5; T 0.25cm. Wt 4.97g.

1:606 Silver band arm-ring fragment (MME: 1847,0711.392)

Severed at both ends from a slightly tapered band; slightly curved (**Pl. 29**).

Nicks: 6. L 1.6; W 1.6–1.5; T 0.2cm. Wt 3.91g.

1:607 Silver band arm-ring fragment (MME: 1847,0711.393)

Severed at both ends from a slightly tapered band, with two cuts at one end; slightly curved (**Pl. 29**). Heavily nicked for its size, including seven along one edge.

Nicks: 10. L 1.95; W 1.6–1.5; T 0.25cm. Wt 5.68g.

1:608 Silver band arm-ring fragment (MME: 1847,0711.394)

Severed at both ends from a slightly tapered band (**Pl. 29**).

Nicks: 4. L 1.1; W 1.5–1.35; T 0.2cm. Wt 2.39g.

1:609 Silver band arm-ring fragment (MME: 1847,0711.395)
Severed at both ends; curved (**Pl. 29**).
Nicks: 1. L 1.1; W 1.1; T 0.2cm. Wt 1.5g.

1:610 Silver band arm-ring fragment (MME: 1847,0711.396)
Severed at both ends from a narrow band, with parallel cuts on both faces (**Pl. 29**). Very heavily nicked for its size (with twelve on one outer edge and eleven on the other, two across one cut end and one on the other).
Nicks: 26. L 1.5; W 1.1; T 0.3cm. Wt 4.35g.

1:611 Silver band arm-ring fragment (MME: 1847,0711.398)
Severed at both ends from a narrow tapered band, the narrower being bent and broken, with a transverse line scratched across one face (**Pl. 29**).
Nicks: 5. L 1.9; W 1.1–0.9; T 0.2cm. Wt 3.19g.

1:612 Silver band arm-ring fragment (MME: 1847,0711.399)
Severed at both ends (one broken) from a narrow band, with a rectangular cross incised on one face; some edge cracking (**Pl. 29**).
Nicks: 4. L 1.5; W 1.1; T 0.3cm. Wt 4.26g.

1:613 Silver band arm-ring fragment (MME: 1847,0711.400)
Severed at both ends from a wide tapered band; flattened (**Pl. 29**).
Nicks: 6. L 1.2; W 2.1–1.8; T 0.2cm. Wt 5.15g.

1:614 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.402)
Severed at one end from a narrow band, which tapers slightly to a straight terminal with bevelled angles (**Pl. 29**).
Nicks: 3. L 1.03; W 0.9–0.8; T 0.3cm. Wt 2.95g.

1:615 Silver band arm-ring fragment (MME: 1847,0711.404)
Severed at both ends from a slightly tapered band, with edge cracking; curved (**Pl. 29**). Heavily nicked for its size.
Nicks: 11. L 0.8; W 1.1–1.0; T 0.2cm. Wt 1.58g.

1:616 Silver band arm-ring fragment (MME: 1847,0711.405)
Severed at both ends from a narrow band; flattened (**Pl. 29**). Heavily nicked for its size.
Nicks: 12. L 1.5; W 0.8; T 0.2cm. Wt 1.97g.

1:617 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.406)
Severed at one end from a narrow band, which tapers slightly to a rounded terminal; flattened (**Pl. 29**).
Nicks: 1. L 1.2; W 0.8–0.7; T 0.2cm. Wt 1.64g.

1:618 Silver band arm-ring edge-fragment (MME: 1847,0711.407)
Severed on three sides; flattened (**Pl. 29**). Extensively nicked along its one original edge.
Nicks: 8. L 1.3; W 0.7; T 0.2cm. Wt 1.45g.

1:619 Silver band arm-ring fragment (MME: 1847,0711.412)
Severed at both ends, with two cuts each and parallel cuts on the reverse across three angles; flattened (**Pl. 29**).
Nicks: 6. L 2.0; W 1.7; T 0.3cm. Wt 6.34g.

1:620 Silver band arm-ring fragment (MME: 1847,0711.413)
Severed at both ends (sheared from the same edge) from a slightly tapered band, with three oblique parallel cuts across one corner (**Pl. 29**).
Nicks: 1 (a slice off one cut angle). L 1.2; W 1.5–1.4; T 0.3cm. Wt 4.58g.

1:621 Silver band arm-ring fragment (MME: 1847,0711.414)
Severed at both ends, one with two cuts, and with three parallel cuts on front (2) and back (1); flattened (**Pl. 29**). Heavily nicked for its size, including on the three cut angles (4/2/5).
Nicks: 13. L 0.9; W 1.1; T 0.3cm. Wt 3.36g.

1:622 Silver band arm-ring fragment (MME: 1847,0711.415)
Severed at both ends, one with a parallel cut on the reverse; flattened (**Pl. 29**). Heavily nicked for its size, including six on one cut end.
Nicks: 10. L 1.0; W 1.2; T 0.3cm. Wt 2.63g.

1:623 Silver band arm-ring edge-fragment (MME: 1847,0711.416)
Severed on three sides; flattened (**Pl. 29**).
Nicks: 9. L 2.4; W 2.0; T 0.3cm. Wt 10.08g.

1:624 Silver band arm-ring fragment (MME: 1847,0711.417)
Severed at both ends from a slightly tapered band, with a parallel cut halfway across one; flattened (**Pl. 29**). Heavily nicked for its size, with six and four on the original edges, and one on a cut angle.
Nicks: 11. L 1.85; W 1.75–1.65; T 0.25cm. Wt 7.11g.

1:625 Silver band arm-ring edge-fragment (MME: 1847,0711.418)
Severed on three sides; flattened (**Pl. 29**).
Nicks: 3. L 1.7; W 1.2; T 0.3cm. Wt 4.04g.

1:626 Silver band arm-ring edge-fragment (MME: 1847,0711.419)
Severed on three sides; flattened (**Pl. 29**).
Nicks: 6. L 1.8; W 1.6; T 0.3cm. Wt 4.77g.

1:627 Silver band arm-ring edge-fragment (MME: 1847,0711.420)
Severed on three sides; flattened (**Pl. 29**).
Nicks: 6. L 1.4; W 1.25; T 0.25cm. Wt 3.29g.

1:628 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.421)
Severed at one end from a narrow band, which tapers very slightly to a rectangular terminal (**Pl. 29**).
Nicks: 1. L 1.1; W 1.05–1.0; T 0.3cm. Wt 2.33g.

1:629 Silver band arm-ring edge-fragment (MME: 1847,0711.422)
Severed on three sides from a thin band, a slight curve to the original outer edge indicating the mid-portion of the ring, with a parallel cut halfway across on the reverse of its narrower end; flattened (**Pl. 29**). The only nick is on the original edge.
Nicks: 1. L 1.4; W 1.3–1.0; T 0.2cm. Wt 2.52g.

1:630 Silver band arm-ring fragment (MME: 1847,0711.423)
Severed at both ends from a narrow band, being broken at one end and obliquely sheared at the other (**Pl. 29**).
Nicks: 1. L 2.1; W 0.5; T 0.2cm. Wt 1.09g.

1:631 Silver band arm-ring edge fragment (MME: 1847,0711.696,e)
Cut on three sides from a plain band (**Pl. 53**).
Nicks: 1. L 0.8; T 0.25cm. Wt 1.29g.

1:632 Silver band arm-ring fragment (MME: 1847,0711.479)
Severed at both ends from a thin band, with some cracking; curved (**Pl. 29**).
Nicks: 4. L 2.3; W 1.5; T 0.1cm. Wt 3.50g.

1:633 Silver band arm-ring fragment (MME: 1847,0711.480)
Severed at both ends from the mid-portion of a tapered band, the widest end being bent back (**Pl. 29**).
Nicks: 3. L 1.2; W 2.3–2.1; T 0.2cm. Wt 4.33g.

1:634 Silver band arm-ring fragment (MME: 1847,0711.481)
Severed at both ends from a thin band, which is very slightly tapered (**Pl. 29**).
Nicks: 3. L 1.95; W 1.8–1.74; T 0.1cm. Wt 3.01g.

1:635 Silver band arm-ring fragment (MME: 1847,0711.482)
Severed at both ends from a thin tapered band, with some cracking; flattened (**Pl. 29**).
Nicks: 6 (3+3 on the original edges). L 2.7; W 1.25–0.9; T 0.1cm. Wt 2.55g.

1:636 Silver band arm-ring fragment (MME: 1847,0711.483)
Severed at both ends from a narrow thin tapered band, with a parallel cut across one; flattened (**Pl. 29**).
Nicks: 5. L 2.3; W 1.0–0.8; T 0.15cm. Wt 2.72g.

1:637 Silver band arm-ring fragment (MME: 1847,0711.485)
Severed at both ends from a thin band, with a parallel cut on the reverse across one (**Pl. 29**).
Nicks: 7. L 1.2; W 1.2; T 0.15cm. Wt 1.77g.

1:638 Silver band arm-ring fragment (MME: 1847,0711.486)
Severed at both ends from a narrow thin tapered band (**Pl. 29**). Very heavily nicked for its size (eight on one outer edge and five on the other).
Nicks: 13. L 1.7; W 1.0–0.8; T 0.15cm. Wt 1.83g.

1:639 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.487)
Severed at one end from a narrow band, which tapers slightly to a rounded terminal; flattened (**Pl. 29**).
Nicks: 8. L 2.0; W 1.0–0.8; T 0.1cm. Wt 1.93g.

1:640 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.488)
Severed at one end from a narrow band with a rounded terminal; flattened (**Pl. 29**).
Nicks: 1. L 2.4; W 1.0; T 0.1cm. Wt 2.60g.

1:641 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.489)
Severed at one end from a narrow band, which tapers slightly to a rounded (but irregular) terminal; flattened (**Pl. 29**).
Nicks: 5. L 1.9; W 0.7–0.6; T 0.2–0.15cm. Wt 1.83g.

1:642 Silver band arm-ring fragment (MME: 1847,0711.490)
Severed at both ends from a narrow band; curved (**Pl. 29**).
Nicks: 1. L 0.9; W 1.0; T 0.25cm. Wt 1.62g.

1:643 Silver band arm-ring fragment (MME: 1847,0711.491)
Severed at both ends from the mid-part of a narrow thin tapered band; flattened (**Pl. 29**).
Nicks: 7. L 1.0; W 1.2; T 0.15cm. Wt 1.51g.

1:644 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.492)
Severed at one end from a crudely finished band which tapers to a straight terminal, which has a lightly incised transverse line with a touching diagonal cross, as if a design for stamped decoration (**Pl. 29**).
Nicks: 5. L 0.9; W 1.35–1.2; T 0.25cm. Wt 2.61g.

1:645 Silver band arm-ring fragment (MME: 1847,0711.493)
Severed at both ends from a narrow tapered band (**Pl. 29**).
Nicks: 2. L 2.35; W 0.5–0.4; T 0.25cm. Wt 1.91g.

1:646 Silver band (annular) arm-ring fragment (MME: 1847,0711.494)
Severed at both ends from a narrow tapered band which appears to be from near the intended terminal of an unfinished annular ring, being flat and roughly hammered, with its edges still facetted (**Pl. 29**).
Nicks: 2. L 1.7; W 0.5–0.25; T 0.2cm. Wt 0.77g.

1:647 Silver band arm-ring fragment (MME: 1847,0711.495)
Severed at both ends from a thin band; flattened (**Pl. 29**).
Nicks: 3. L 0.9; W 1.1; T 0.1cm. Wt 1.00g.

1:648 Silver band arm-ring fragment (MME: 1847,0711.496)
Severed at both ends from a tapered band; flattened (**Pl. 29**).
Nicks: 3. L 0.7; W 1.15–1.0; T 0.2cm. Wt 1.33g.

1:649 Silver band arm-ring fragment (MME: 1847,0711.497)
Severed at both ends from a narrow thin band; flattened (**Pl. 29**).
Nicks: 0. L 0.85; W 0.9; T 0.1cm. Wt 0.67g.

1:650 Silver band arm-ring edge-fragment (MME: 1847,0711.498)
Triangular fragment severed on two sides; flattened (**Pl. 29**).
Nicks: 0. L 1.2; W 0.9; T 0.2cm. Wt 0.76g.

1:651 Silver band arm-ring edge-fragment (MME: 1847,0711.499)
Broken on three sides from a thin band; flattened (**Pl. 29**).
Nicks: 4. L 0.9; W 0.9; T 0.1cm. Wt 0.46g.

1:652 Silver band arm-ring (edge-)fragment (MME: 1847,0711.500)
Broken on at least three sides from a thin band; battered and bent (**Pl. 29**).
Nicks: 0. L 0.7; W 1.2; T 0.1cm. Wt 0.49g.

1:653 Silver band arm-ring fragment (MME: 1847,0711.501)
Missing: sub-triangular fragment, possibly broken on all three sides (**Pl. 53**; from BM Register).
Nicks: ? L 0.25" (*c.* 0.6cm). Wt 3gr (*c.* 0.24g).

1:654 Silver band arm-ring edge-fragment (MME: 1847,0711.502)
Severed on three sides, with a parallel cut at both ends; flattened (**Pl. 29**).
Nicks: 4. L 1.5; W 0.7; T 0.1cm. Wt 1.04g.

1:655 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.696,b)
Severed at one end from a thick band which tapers to a sub-rectangular terminal; bent at cut end (**Pl. 29**).
Nicks: 8. L 2.1; W 1.4–1.1; T 0.45cm. Wt 9.89g.

1:656 Silver band arm-ring fragment (MME: 1847,0711.696,d)
Severed at both ends (**Pl. 29**).
Nicks: 5. L 0.4; W 0.8; T 0.2cm. Wt 0.35g.

1:657 Silver band arm-ring edge-fragment (MME: 1847,0711.703)
Severed on three sides, with a somewhat uneven original edge; flattened (**Pl. 29**).
Nicks: 0. L 1.7; W 0.8; T 0.2cm. Wt 1.62g.

1:658 Silver band penannular arm-ring, terminal fragment (MME: 1847,0711.704)
Clipped at one end from a very thin band, with an expanded rounded (spatulate) terminal; flattened (**Pl. 29**).
Nicks: 9. L 1.4; W 1.1–0.7; T 0.05cm. Wt 0.64g.

1:659 Silver band arm-ring fragment (MME: 1847,0711.175)
Severed at both ends from a wide, and exceptionally thick, tapered band, with five parallel cut marks across the front (**Pl. 28**).
Nicks: 0. L 1.6; W 2.35–2.2; T 0.65cm. Wt 1.5g.

1:660 Silver band penannular arm-ring, terminal fragment (AC: 36)
Severed across one end (with one angle cut off) from a band with a rounded terminal; flattened (**Pl. 28**).
Nicks: 4. L 1.1; W 1.5; T 0.2cm. Wt 2.0g.

1:661 Silver band penannular arm-ring, terminal fragment (AC: 79)
Severed at one end from a broad tapered band with a rounded terminal, which is bent back to form a loop; otherwise flattened (**Pl. 28**).
Nicks: 4. L 4.9; W 2.3–1.2; T 0.2cm. Wt 19.16g.

1:662 Silver band arm-ring fragment (AC: 80)
Severed at both ends from the expanded mid-part of a broad tapered band, at one end with two blows, whereas the other is bent back into a loop (with a parallel cut); otherwise flattened, with one cracked edge (**Pl. 28**). It is heavily nicked, including eleven along one edge.
Nicks: 17. L 5.1; W 2.3–1.3; T 0.15–0.2cm. Wt 20.96g.

1:663 Silver band arm-ring edge-fragment (AM: 1909.538)
Severed on three sides from a thick band (**Pl. 29**).
Nicks: 0. H 0.9; W 0.55; T 0.3cm. Wt 1.03g.
XRF-analysis, by Fiona Macalister (1992). Cu: 2.76; Zn: <0.25; Au: 0.75; Pb: 0.4; Ag: 95.65; Bi: n.d.; Sn: <0.40; 'silver' = 97.27%.
Evans collection: Thompson 1956, pl. xii,a; Macalister in Kruse and Tate 1992, 325.

5. 'Bullion-rings' and fragments (1:664–82)

1:664 Silver penannular 'bullion-ring' (MME: 1847,0711.359)
Complete ring formed from a plain thick narrow band, which tapers to overlapping sub-rectangular terminals; in good condition (**Fig. 5.16**, no. 67; **Pl. 30**).
Nicks: 2. D 2.6; W 0.7; T 0.4cm. Wt 12.61g.
Hawkins 1847, 127, fig. 67; *BM Anglo-Saxon Guide* (1923), 107, fig. 132,6; Bjørn and Shetelig 1940, 40 (r), fig. 12.

1:665 Silver 'bullion-ring' fragment (MME: 1847,0711.366)
Severed at both ends from a plain thick tapered band; bent (**Pl. 30**). Heavily nicked for its size.
Nicks: 12. L 3.1; W 1.2–0.9; T 0.4cm. Wt 14.10g.

1:666 Silver 'bullion-ring' fragment (MME: 1847,0711.378)
Severed at both ends from a plain thick narrow band; strongly curved (**Pl. 30**).
Nicks: 7. L 2.05; W 0.9; T 0.4cm. Wt 6.92g.

1:667 Silver 'bullion-ring' fragment (MME: 1847,0711.384)
Severed at both ends from a plain thick, very slightly tapered, band, with some cracking; strongly curved (**Pl. 30**).
Nicks: 1. L 1.8; W 1.25–1.2; T 0.4cm. Wt 6.77g.

1:668 Silver 'bullion-ring' fragment (MME: 1847,0711.385)
Severed at both ends from a plain thick band, with a parallel cut across one (inside); strongly curved (**Pl. 30**).
Nicks: 2. L 1.8; W 1.6; T 0.4cm. Wt 9.15g.

1:669 Silver 'bullion-ring' fragment (MME: 1847,0711.386)
Severed at both ends from a plain thick band; strongly curved (**Pl. 30**).
Nicks: 8. L 1.5; W 1.4; T 0.3cm. Wt 5.67g.

1:670 Silver 'bullion-ring' fragment (MME: 1847,0711.388)
Severed at both ends from a plain thick band, with a parallel cut across one (inside); curved (**Pl. 30**).
Nicks: 3. L 1.2; W 1.5; T 0.4cm. Wt 5.23g.

1:671 Silver 'bullion-ring' fragment (MME: 1847,0711.389)

Severed at both ends from a plain thick band, with a deep parallel cut midway between (inside); strongly curved, but distorted (**Pl. 30**).

Nicks: 6. L 1.1; W 1.5; T 0.5cm. Wt 5.07g.

1:672 Silver 'bullion-ring' fragment (MME: 1847,0711.397)

Severed at both ends from a plain thick band; strongly curved (**Pl. 30**). Heavily nicked for its size, on all four original angles (5/3 and 3/2).

Nicks: 13. L 1.9; W 1.2; T 0.4cm. Wt 7.12g.

1:673 Silver 'bullion-ring' fragment (MME: 1847,0711.403)

Severed at both ends from a plain thick narrow band; flattened (**Pl. 30**).

Nicks: 1. L 1.3; W 1.0; T 0.4cm. Wt 4.19g.

1:674 Silver 'bullion-ring' fragment (MME: 1847,0711.408)

Severed at both ends from a plain thick broad band; slight curvature remaining (**Pl. 30**). Heavily nicked on all four original angles (4/1 and 2/1), together with four triangular pecks on the main faces (3 and 1) .

Nicks: 12. L 2.1; W 1.7; T 0.5cm. Wt 13.03g.

1:675 Silver 'bullion-ring' fragment (MME: 1847,0711.409)

Severed at both ends, and again across one angle, from a plain thick tapered band, with three parallel cuts on the front; flattened (**Pl. 30**).

Nicks: 6. L 1.2; W 1.8–1.5; T 0.4cm. Wt 5.54g.

1:676 Silver 'bullion-ring' fragment (MME: 1847,0711.410)

Severed at both ends from a plain thick tapered band, with parallel cuts at one; flattened (**Pl. 30**).

Nicks: 6. L 1.2; W 1.3–1.2; T 0.5cm. Wt 5.43

1:677 Silver 'bullion-ring' fragment (MME: 1847,0711.411)

Severed at both ends, and again across one angle, from a plain thick tapered band; flattened (**Pl. 30**).

Nicks: 1. L 1.2; W 1.5; T 0.4cm. Wt 4.90g.

1:678 Silver 'bullion-ring' terminal fragment (MME: 1847,0711.699)

Severed at one end (approximately in half) from a plain thick, square-sectioned, band which tapers slightly to a straight terminal; strongly curved, but distorted (**Pl. 30**). In good condition, with one large nick (on outer edge) and two groups of three minor ones (paired on the inner angles).

Nicks: 7. L 2.6; W 0.5–0.3; T 0.5–0.3cm. Wt 7.17g.

1:679 Silver (?)'bullion-ring' (MME: 1847,0711.700)

Small complete ring formed from a plain narrow band, which tapers to overlapping ends, with one terminal being pointed and the other sub-rectangular (**Pl. 30**). The terminals are hammered to shape and appear to be intact (cf. **1:664**).

Nicks: 2 (on opposite sides). D 1.1; W 0.35–0.2/0.1; T 0.15–0.1cm. Wt 1.37g.

1:680 Silver (?)'bullion-ring' terminal fragment (MME: 1847,0711.701)

Severed at one end from a plain narrow band, which would have formed a small ring (cf. **1:679**), with its distorted terminal bent back on itself to form a closed loop (**Pl. 30**).

Nicks: 1. D 0.9; W 0.25; T 0.4cm. Wt 1.33g.

1:681 Silver (?)'bullion-ring' terminal fragment (MME: 1847,0711.705)

Broken at one end from a plain narrow thin (straight-sided) band with a rounded terminal; part curved and part flattened (**Pl. 30**). Cf. **1:679**, but alternatively part of a slight finger-ring.

Nicks: 2. L 1.8; W 0.2; T 0.1cm. Wt 0.24g.

1:682 Silver 'bullion-ring' fragment (LM: 53.114.62)

Severed at both ends from a plain narrow thick band (cf. **1:664**); strongly curved (**Pl. 30**).

Nicks: 4 (2+2 on outer angles). L 1.2; W 0.75; T 0.4cm. Wt 2.37g.

XRF-analysis, by Kruse and Tate (1992). Cu: 1.5; Zn: n.d.; Au: 0.1; Pb: 0.5; Bi: n.d.; Ag: 97.7; Sn: tr.; 'silver' = 98.1%.

Nelson collection: Shetelig (ed.) 1954, fig. 86; Kruse and Tate 1992, 320.

6. Twisted-rod neck-rings, and fragments (1:683–95)

1:683 Silver penannular double neck-ring (AC: 115 and 117)

Both parts of this double neck-ring are formed from three pairs of slightly tapering twisted rods, twisted together (6 + 6 = 12-rod), which merged into plain rod terminals, of rectangular section, with an open hook matching a closed loop (**Fig. 5.4**, nos 58–9; **Pl. 31**). AC:115 is now separate from AC:117, having already been broken at one end in antiquity, but as stated by Hawkins (1847, 124), 'when found it [AC:117] was attached to another of similar form [AC:115], but just so much smaller as to allow of its lying within; the ends of both were hammered into a four-sided tapering termination, which was fastened by a hook and eye as here represented in fig. 59' (see **Fig. 5.4**). The terminals are crudely finished in comparison with the well made and tightly twisted rings, which are in good condition. AC:117 has three nicks, one on each terminal, and one by the terminal where AC:115 has broken away (AC:115 has none).

Nicks: 3. (AC:117) D 13.6; D (rods) 0.25–0.18/0.16cm. Wt 82.46g. (AC: 115) D 13.5; D (rods) 0.27–0.18cm. Wt 90.52g. Total Wt 172.98g.

Hawkins 1847, 124, figs 58 and 59; Bjørn and Shetelig 1940, 38, 40 (l).

1:684 Silver penannular neck-ring (AC: 116)

Formed from three pairs of slightly tapering (D 0.4–0.3cm) twisted rods, twisted together (6-rod); as **1:686**, these merge into plain rod terminals which match an open hook, with a scrolled end, with a closed loop, a small part of which is missing (**Pl. 32**). The hooked terminal is sub-rectangular in section, whereas the looped one is lozenge-shaped. It is in poor surface condition, although two nicks are evident on the terminals and nine on the rods.

Nicks: 11. D 3.5cm. Wt 188.2g.

1:685 Silver penannular neck-ring terminal (AC: 120)

Cut from a somewhat crudely manufactured hoop formed from three pairs of slightly tapering (D 0.25–0.2cm) twisted rods, twisted together (6-rod) which are merged into an expanded terminal plate, of rectangular section, with a rounded end (bent and cracked) (**Pl. 33**). It has an oval perforation, around which there are twenty-two impressions (some overlapping) of a plain opposed-triangle (but lop-sided) stamp (**Fig. 8.2,53**); in addition, there are five impressions of the same stamp on one side and four on the other (total: 31).

Nicks: 0. L 9.4cm. Wt 27.67g.

1:686 Silver penannular neck-ring terminal (AC: 118)

Cut from a massive hoop formed from three pairs of slightly tapering (D 0.5–0.3cm) twisted rods, twisted together (6-rod) which merge into a plain rod tapering terminal (as **1:684**) from which the end has been cut; it has been bent into a loop (**Pl. 33**).

Nicks: 0. L 10.7cm. Wt 250g.

1:687 Silver penannular neck-ring terminal fragment (AM: 1909.551f)

Cut from a hoop of unknown construction; it is slight and flat (0.5 x 0.1cm), with parallel sides and a hooked end, part of which has been cut off (**Pl. 33**). There are three longitudinal rows of stamping, executed with two plain (sub-circular) punches of different sizes; the impressions are irregularly spaced, with a central row of the larger one, bordered by the smaller one.

Nicks: 2. L 1.2cm. Wt 0.7g.

Evans collection; Thompson 1956, pl. xii,a.

1:688 Silver hoop/terminal fragment from a neck-ring (LM: 53.114.38)

Cut from a hoop formed from four pairs of twisted rods (D 0.2cm), twisted together (8-rod), merging into a plain tapered rod, of circular section, which has had its end cut off (**Pl. 33**).

Nicks: 4. L 4.7cm. Wt 12.34g.

Nelson collection (ex-Grantley?); Shetelig (ed.) 1954, fig. 85.

1:689 Silver hoop fragment from a neck-ring (LM: 53.114.39)

Severed at both ends from a hoop formed from three pairs of twisted rods (D 0.2cm), twisted together (6-rod), with gradual curvature (**Pl. 33**).

Nicks: 1. L 3.3cm. Wt 6.3g.

Nelson collection (ex-Grantley?); Shetelig (ed.) 1954, fig. 85.

1:690 Silver terminal fragment from a neck-ring (MME: 1841,0711.635)

Severed at both ends from a hoop formed from three pairs of twisted rods (D 0.2cm), twisted together (6-rod), merging into a

single plain rod, of tapering rectangular section, which has had its end cut off (**Pl. 34**).

Nicks: 9. L 3.9cm. Wt 6.44g.

1:691 Silver terminal fragment from a neck-ring (MME: 1841,0711.340)

Severed at both ends, with stamped decoration (**Pl. 34**); it has a rectangular section and tapers to one end, but is thickest at the narrow end where it would have merged with the rods (0.95 x 0.3–0.75 x 0.5cm). The narrow end is plain before a single, interlocking, row of a triangular stamp, which contains three pellets and has a small blemish on its left-hand side (**Fig. 8.2,17**); the nine surviving impressions are irregularly placed, with one partial overstrike and two being double-struck.

Nicks: 1. L 4.3cm. Wt 12.65g (drilled).

1:692 Silver hoop fragment from a (?)neck-ring (MME: 1841,0711.619)

Severed at both ends from a hoop formed from a pair of twisted rods (D 0.4cm); this is probably from a neck-ring on the grounds of the thickness of its rods (cf. **1:693–4**) and of the gradual curvature of the fragment (**Pl. 34**).

Nicks: 3. L 7.8cm. Wt 25.72g (drilled).

1:693 Silver hoop fragment from a (?)neck-ring (MME: 1841,0711.622)

Severed at both ends from a hoop formed from a pair of twisted rods (D 0.4cm); this is probably from a neck-ring on the grounds of the thickness of its rods (cf. **1:692** and **694**) and the gradual curvature of the fragment (**Pl. 34**).

Nicks: 7. L 3.7cm. Wt 9.5g.

1:694 Silver hoop fragment from a (?)neck-ring (AC: 124)

Severed at both ends from a hoop formed from a pair of loosely twisted rods (D 0.4cm); the fragment has a twist to it suggesting that it was originally twisted together with another pair and is thus probably derived from a neck-ring (**Pl. 34**). The thickness of the rods is the same as that of the previous two fragments, **1:692–3** (cf **1:684**).

Nicks: 2. L 5.2cm. Wt 13.85g.

1:695 Silver hoop fragment from a (?)neck-ring (AC: 119)

Severed at both ends from a hoop formed from four tightly twisted rods which taper from one end to the other (D 0.23–0.15cm); it has been bent into a triangular loop (**Pl. 34**). The narrow end is cut and broken (as if from a terminal), whereas the thick end (D 0.6cm) is cleanly sheared (as if the hoop of a neck-ring had been cut in half).

Nicks: 7. L 9.6cm. Wt 38.14g.

7. Plaited- and twisted-rod arm-rings, with paired-rod fragments (1:696–721)

1:696 Silver annular plaited-rod arm-ring (AC: 121)

Formed from four rods, slightly tapering to their ends (D 0.27–0.2cm) which are fused together and closed with a simple twist, one end of which has been cut off; some of the rods on the upper and lower faces of the ring have been hammered flat (**Cat. Fig. 3**; **Pl. 35**). One of the rods has been cut through so that the ring has sprung apart at that point, but it is otherwise in excellent condition, with no nicking.

Nicks: 0. D 8.3cm. Wt 48.41g.

Memoirs Illustrative of the History and Antiquities of the County and City of York, communicated to the Annual Meeting of the Archaeological Institute of Great Britain and Ireland, held at York, July, 1846, … (1848), 40, pl. vi, fig. 1.

1:697 Silver annular twisted-rod arm-ring (MME: 1841,0711.432)

Formed from a pair of tapered rods, with the ends of one linked in a spiral, or whorl-shaped, knot which has two twists to either side (**Fig. 5.13**; **Pl. 35**); flattened into an oval, but otherwise in good condition.

Nicks: 5. L 9.3; D (combined rods) 0.4cm. Wt 41.17g.

Hawkins 1847, 123, fig. 57; *BM Anglo-Saxon Guide* (1923), 107, fig. 132,2; Bjørn and Shetelig 1940, 38 (k), fig. 9.

1:698 Silver twisted-rod arm-ring terminal/ hoop fragment (MME: 1841,0711.625)

Formed from a pair of rods (D 0.2cm), with their ends twisted together, although broken away at this terminal and severed at the other end (**Pl. 35**). One of the rods is broken where the fragment is slightly bent at its mid-point; heavily nicked, mostly towards the cut end.

Nicks: 16. L 6.7cm. Wt 7.52g.

1:699 Silver twisted-rod arm-ring terminal/ hoop fragment (MME: 1841,0711.629)

Formed from a pair of thin rods (D 0.15cm), which had their ends knotted, although only one U-shaped loop of inserted rod remains of this terminal-knot; severed at both ends and partly straightened (**Pl. 35**).

Nicks: 5. L 10.0cm. Wt 5.92g.

1:700 Silver twisted-rod arm-ring terminal fragment (MME: 1841,0711.633)

Formed from two pairs of rods (D 0.2cm), twisted together and fused into a plain rod terminal, which tapers to a loop; cut through the hoop which has been straightened (**Pl. 35**).

Nicks: 8 (in two groups of 4, on the terminal rod). L 5.6cm. Wt 6.75g.

Hawkins 1847, 124–5, fig. 60; Bjørn and Shetelig 1940, 40 (l), fig. 12.

1:701 Silver twisted-rod arm-ring terminal fragment (MME: 1841,0711.634)

Rod-shaped terminal into which the rods, which have been broken away, would have been fused; otherwise complete, in the form of a plain tapered rod (D 0.6–0.2cm) which was straightened before being bent into a U-shaped loop (**Pl. 35**).

Nicks: 4. L 3.9cm. Wt 6.53g.

1:702 Silver twisted-rod arm-ring terminal fragment (MME: 1841,0711.636)

Formed from four rods, twisted together and fused into a plain rod terminal (D 0.5cm); severed at both ends (**Pl. 35**).

Nicks: 3. L 1.7cm. Wt 2.03g.

1:703 Silver twisted-rod arm-ring hoop/ terminal fragment (MME: 1841,0711.685)

The ring has been reduced to a single rod, which is bent into a double loop and flattened (**Pl. 36**). One end of this thin rod is bent back, being all that remains of the twisted terminal; the other is broken.

Nicks: 2. L 4.0; D 0.1cm. Wt 2.44g.

1:704 Silver twisted-rod arm-ring hoop/ terminal fragment (AC: 123)

Formed from a pair of tapered rods (D 0.4–0.16cm), which had their ends knotted, although all that remains of the terminal-knot are two small pieces of rod inserted through the thin end; severed at both ends and bent into a U-shaped loop (**Pl. 36**).

Nicks: *c.*10. L 4.4cm. Wt 21.5g.

1:705 Silver twisted-rod arm-ring fragment (MME: 1841,0711.614)

Formed from a pair of tapered rods (D 0.4–0.2cm); severed at both ends, just before the terminal and (probably) through the mid-point of the ring (**Pl. 36**).

Nicks: *c.*13. L 5.1cm. Wt 22.5g.

1:706 Silver twisted-rod arm-ring fragment (MME: 1841,0711.615)

Formed from a pair of rods (D 0.3cm); severed at both ends and bent into a figure-of-eight shaped loop (**Pl. 36**). A small piece of wire is lodged between the rods where they eased apart, on one of the bends, presumably accidentally.

Nicks: 0. L 4.3cm. Wt 23.43g.

1:707 Silver twisted-rod arm-ring fragment (MME: 1841,0711.616)

Formed from a pair of rods of flattened section (W 0.3cm); severed at both ends and bent into a loop (**Pl. 36**). The flattened rods are tightly twisted to give a smooth appearance to the ring fragment, which is in good condition.

Nicks: 1. L 3.9cm. Wt 12.15g.

1:708 Silver twisted-rod arm-ring fragment (MME: 1841,0711.617)

Formed from a pair of rods (D 0.25cm); severed unequally at both ends and bent into a triangular loop (**Pl. 36**).

Nicks: 3. L 5.4cm. Wt 12.0g.

1:709 Silver twisted-rod arm-ring fragment (MME: 1841,0711.618)

Formed from a pair of rods (D 0.25cm); severed at both ends and bent into a U-shaped loop (**Pl. 36**).

Nicks: 3. L 5.6cm. Wt 11.38g.

1:710 Silver twisted-rod arm-ring fragment (MME: 1841,0711.620)

Formed from a pair of rods (D 0.3cm); severed at both ends, but unequally at one with the longer rod being bent back and flattened (**Pl. 36**).

Nicks: 1. L 6.5cm. Wt 14.05g.

1:711 Silver twisted-rod arm-ring fragment (MME: 1841,0711.621)
Formed from a pair of rods (D 0.3cm); severed at both ends (**Pl. 36**). The surface is pitted and its apparent poor quality presumably accounts for its multiple nicking.
Nicks: 16. L 3.2cm. Wt 7.32g.

1:712 Silver twisted-rod arm-ring fragment (MME: 1841,0711.623)
Formed from a pair of rods (D 0.3cm); severed at both ends (**Pl. 36**). There is a deep central cut within the curve, as if preparatory to cutting the fragment in half.
Nicks: 7. L 3.5cm. Wt 7.12g.

1:713 Silver twisted-rod arm-ring fragment (MME: 1841,0711.624)
Formed from a pair of rods (D 0.25cm); severed at both ends (**Pl. 36**).
Nicks: 1. L 1.9cm. Wt 2.49g.

1:714 Silver twisted-rod arm-ring fragment (MME: 1841,0711.626)
Formed from a pair of rods; severed at both ends from a straightened ring (**Pl. 36**). One rod is slightly tapered (D 0.27–0.2cm); the other not (D 0.2cm).
Nicks: 2. L 3.0cm. Wt 2.39g.

1:715 Silver twisted-rod arm-ring fragment (MME: 1841,0711.630)
Formed from a pair of thin rods (D 0.15–0.18cm); severed at both ends and bent into a small U-shaped loop (**Pl. 36**).
Nicks: 2. L 1.3cm. Wt 1.39g.

1:716 Silver twisted-rod arm-ring fragment (MME: 1841,0711.631)
Formed from a pair of rods of slightly different thickness (D 0.2 and 0.15cm); broken at both ends (**Pl. 36**).
Nicks: 3. L 1.7cm. Wt 0.89g.

1:717 Silver twisted-rod arm-ring fragment (MME: 1841,0711.632)
Formed from a pair of thin rods (0.13cm), part hammered flat on the upper and lower faces of the ring; severed at both ends, but unequally at one with the longer rod bent back (**Pl. 36**).
Nicks: 0. L 2.6cm. Wt 1.11g.

1:718 Silver twisted-rod arm-ring fragment (MME: 1841,0711.638)
Formed from a pair of rods (D 0.25cm); severed at both ends (**Pl. 36**).
Nicks: 1. L 4.6cm. Wt 5.6g.

1:719 Silver twisted-rod arm-ring fragment (AC: 125)
Formed from a pair of rods (D 0.3cm), which are tightly twisted together; severed at both ends (**Pl. 36**).
Nicks: *c.*14. L 7.0cm. Wt 15.15g.

1:720 Silver twisted-rod arm-ring fragment (AC: 126)
Formed from a pair of slightly tapering rods (D 0.25–0.2cm); severed at both ends and bent into a U-shaped loop (**Pl. 36**).
Nicks: 2. L 3.2cm. Wt 5.7g.

1:721 Silver twisted-rod arm-ring fragment (AC: 127)
Formed from a pair of thin rods (D 0.15cm); severed at both ends and bent into a hook-shaped loop (**Pl. 36**).
Nicks: 0. L 3.5cm. Wt 2.14g.

8. Twisted-rod single fragments of circular section (1:722–835)

These twisted-rod fragments are illustrated on **Pl. 37**.

1:722 Fragment of silver twisted rod (MME: 1841,0711.375)
Severed at both ends (D 0.35cm).
Nicks: 4. L 2.1cm. Wt 2.09g.

1:723 Fragment of silver twisted rod (MME: 1841,0711.603)
Severed at both ends (D 0.5cm).
Nicks: 6 (inc. 2 pairs). L 1.8cm. Wt 2.78g.

1:724 Fragment of silver twisted rod (MME: 1841,0711.639)
Severed at both ends (D 0.3cm); bent into a loop, with one end bent back.
Nicks: 2. L 4.2cm. Wt 7.28g.

1:725 Fragment of silver twisted rod (MME: 1841,0711.640)
Severed at both ends (D 0.3cm); bent into a loop.
Nicks: 1. L 5.5cm. Wt 8.87g.

1:726 Fragment of silver twisted rod (MME: 1841,0711.641)
Severed at both ends (D 0.3cm); bent into a loop, with its ends bent back.
Nicks: 3. L 3.1cm. Wt 8.53g.

1:727 Fragment of silver twisted rod (MME: 1841,0711.642)
Severed at both ends (D 0.3cm); bent into an S-shaped loop.
Nicks: 12. L 4.1cm. Wt 6.9g.

1:728 Fragment of silver twisted rod (MME: 1841,0711.643)
Severed at both ends (D 0.3–0.2cm); bent into a loop.
Nicks: 4. L 4.5cm. Wt 5.43g.

1:729 Fragment of silver twisted rod (MME: 1841,0711.644)
Severed at both ends (D 0.2cm); bent into a loop.
Nicks: 3. L 2.8cm. Wt 2.87g.

1:730 Fragment of silver twisted rod (MME: 1841,0711.645)
Severed at both ends (D 0.3cm).
Nicks: 1. L 3.5cm. Wt 4.25g.

1:731 Fragment of silver twisted rod (MME: 1841,0711.646)
Severed at both ends (D 0.25cm); bent into a loop.
Nicks: 9. L 3.05cm. Wt 3.95g.

1:732 Fragment of silver twisted rod (MME: 1841,0711.647)
Severed at both ends (D 0.2cm); bent into a U-shaped loop.
Nicks: 4. L 2.7cm. Wt 2.34g.

1:733 Fragment of silver twisted rod (MME: 1841,0711.648)
Severed at both ends (D 0.3–0.2cm); bent together.
Nicks: 2. L 2.8cm. Wt 2.25g.

1:734 Fragment of silver twisted rod (MME: 1841,0711.649)
Severed at both ends (D 0.2cm); bent together.
Nicks: 2. L 2.9cm. Wt 2.09g.

1:735 Fragment of silver twisted rod (MME: 1841,0711.650)
Severed at both ends (D 0.25cm); bent into a loop.
Nicks: 6. L 2.2cm. Wt 3.53g.

1:736 Fragment of silver twisted rod (MME: 1841,0711.652)
Severed at both ends, with a parallel cut across the thicker (D 0.25–0.15cm); bent into a loop.
Nicks: 8. L 2.1cm. Wt 2.38g.

1:737 Fragment of silver twisted rod (MME: 1841,0711.653)
Severed at both ends (D 0.25cm); bent into a loop.
Nicks: 4. L 2.2cm. Wt 2.77g.

1:738 Fragment of silver twisted rod (MME: 1841,0711.654)
Severed at both ends (D 0.3cm); bent into an S-shaped loop.
Nicks: 4. L 2.2cm. Wt 3.74g.

1:739 Fragment of silver twisted rod (MME: 1841,0711.655)
Severed at both ends (D 0.2–0.15cm).
Nicks: 2. L 2.5cm. Wt 1.31g.

1:740 Fragment of silver twisted rod (MME: 1841,0711.656)
Severed at both ends (D 0.2cm); bent into an open loop.
Nicks: 2. L 3.1cm. Wt 2.23g.

1:741 Fragment of silver twisted rod (MME: 1841,0711.657)
Severed at both ends (D 0.4cm), with a deep central cut.
Nicks: 3. L 4.7cm. Wt 6.38g.

1:742 Fragment of silver twisted rod (MME: 1841,0711.658)
Severed at both ends (D 0.4cm).
Nicks: 6. L 3.5cm. Wt 5.41g.

1:743 Fragment of silver twisted rod (MME: 1841,0711.659)
Severed at both ends (D 0.35cm), one of which has a parallel cut.
Nicks: 6. L 4.0cm. Wt 5.32g.

1:744 Fragment of silver twisted rod (MME: 1841,0711.660)

Severed at both ends from a thick and slightly tapered rod (D 0.45–0.4cm); it has been heavily nicked (**Fig. 4.5**).

Nicks: 28. L 3.3cm. Wt 5.56g.

1:745 Fragment of silver twisted rod (MME: 1841,0711.661)

Severed at both ends, with an uneven section (D 0.3–0.4cm); bent into a U-shaped loop.

Nicks: 13. L 2.9cm. Wt 4.26g.

1:746 Fragment of silver twisted rod (MME: 1841,0711.662)

Severed at both ends (D 0.35cm).

Nicks: 4. L 3.5cm. Wt 4.16g.

1:747 Fragment of silver twisted rod (MME: 1841,0711.663)

Severed at one end and broken at the other (D 0.4cm); heavily nicked.

Nicks: *c.*12. L 4.1cm. Wt 3.73g.

1:748 Fragment of silver twisted rod (MME: 1841,0711.664)

Severed at both ends (D 0.35–0.25cm).

Nicks: 5. L 3.7cm. Wt 3.36g.

1:749 Fragment of silver twisted rod (MME: 1841,0711.665)

Severed at both ends (D 0.2cm); bent.

Nicks: 1. L 2.3cm. Wt 1.66g.

1:750 Fragment of silver twisted rod (MME: 1841,0711.666j)

Severed at both ends (D 0.5cm).

Nicks: 1. L 1.0cm. Wt 1.28g.

1:751 Fragment of silver twisted rod (MME: 1841,0711.671)

Severed at both ends (D 0.3cm); bent into a U-shaped loop.

Nicks: 4. L 4.3cm. Wt 6.04g.

1:752–83 Thirty-two fragments of silver twisted rod (MME: 1841,0711.667)

Severed at both ends from plain rods (D 0.5–03cm), with nicking.

L 4.9–0.9cm. Wts 4.28; 3.69; 3.32; 3.31; 3.31; 3.29; 2.91; 2.81; 2.75; 2.43; 2.37; 2.28; 2.12; 2.01; 2.01; 1.88; 1.82; 1.73; 1.68; 1.66; 1.62; 1.60; 1.56; 1.46; 1.28; 1.21; 1.17; 1.02; 1.00; 0.89; 0.86; 0.77g. Total Wt: 66.10g.

1:784–820 Thirty-seven fragments of silver twisted rod (MME: 1841,0711.668)

Severed at both ends from plain rods (D0.3–0.2cm), with nicking.

L 2.9–0.9cm. Wts 1.41; 1.23; 1.12; 1.08; 0.94; 0.93; 0.91; 0.83; 0.82; 0.82; 0.76; 0.75; 0.75; 0.72; 0.70; 0.68; 0.68; 0.64; 0.63; 0.59; 0.59; 0.58; 0.55; 0.53; 0.48; 0.47; 0.47; 0.45; 0.44; 0.44; 0.44; 0.43; 0.42; 0.40; 0.40; 0.36; 0.30g. Total Wt: 24.74g.

1:822–33 Thirteen fragments of silver twisted rod (MME: 1841,0711.669)

Severed at both ends from plain thin rods (D 0.2–0.15cm), with some nicking.

L 2.6–0.6cm. Wts 0.65; 0.60; 0.58; 0.50; 0.47; 0.35; 0.31; 0.29; 0.26; 0.19; 0.18; 0.18; 0.14g. Total Wt: 4.70g.

1:834 Fragment of silver twisted rod (AC: 35)

Severed at both ends (D 0.5–0.6cm).

Nicks: 4. L 0.9cm. Wt 1.45g.

1:835 Fragment of silver twisted rod (AM: 1909.551g)

Severed at both ends (D 0.4cm).

Nicks: 0. L 0.7cm. Wt 0.61g.

Evans collection; Thompson 1956, pl. xii,a.

9. Rod arm-rings (circular section), and terminal fragments (1:836–53 and 1,130–2)

1:836 Silver annular rod arm-ring (MME: 1841,0711.430)

Formed from a plain tapered rod of circular section (max. D 0.5cm), with its ends joined in a spiral-knot terminal, or whorl (**Figs 5.13** and **5.15**, no. 53; **Pl. 38**); although flattened into an oval shape, it is in excellent condition, with only one light nick (on its outer face).

Nicks: 1. L 10.0cm. Wt 24.17g.

Hawkins 1847, 122, fig. 53; *BM Anglo-Saxon Guide* (1923), 107, fig. 132,9; Bjørn and Shetelig (1940), 38 (g), fig. 10.

1:837 Silver annular rod arm-ring, attached to an annular band-shaped finger-ring (MME: 1841,0711.431)

The arm-ring is formed from a plain tapered rod of circular section (max. D 0.5cm), with its ends joined in a twisted terminal; flattened into a figure-of-eight shape (**Fig. 5.15**, no. 54; **Pl. 38**). The plain finger-ring, which is somewhat dented (D 2.2cm), is formed from a thin tapering band (max. 0.6 x 0.1cm), with its ends joined in a twisted terminal.

Nicks: 3 (on arm-ring). L 9.0cm. Wt 25.56g.

Hawkins 1847, 122, fig. 54; Bjørn and Shetelig (1940), 38 (g), fig. 9.

1:838 Silver annular rod arm-ring (AC: 74)

Formed from a plain tapered rod of circular section (max. D 0.4cm), with its ends joined in a simple twist; flattened into a figure-of-eight shape (**Pl. 38**).

Nicks: 8. L 9.3cm. Wt 24.27g.

1:839 Silver annular rod arm-ring (AC: 105)

Oval ring, formed from a plain tapered rod of circular section (max. D 0.4cm), with its ends joined in a double twist (**Pl. 38**); in good condition, although imperfectly hammered and with some cracking.

Nicks: 7. D 8.2cm. Wt 22.44g.

1:840 Silver annular rod arm-ring (AC: 106)

Formed from a plain tapered rod of circular section (max. D 0.4cm), with its ends originally joined in a twisted terminal, but one end (with three twists) is broken off and loose on the ring, and the other end is missing (after one twist); bent and broken (**Pl. 38**).

Nicks: 6. L 7.2cm. Wt 19.78g.

1:841 Silver annular rod arm-ring (AM: 1909.521)

Oval ring, formed from a plain tapered rod of circular section (D 0.6–0.1cm), with its ends joined in a double twist (**Pl. 38**); imperfectly hammered, but in excellent condition, with no nicks.

Nicks: 0. D 8.5cm. Wt 48.58g.

Evans collection; Soden Smith 1873, 30, no. 109; Thompson 1956, pl. xii,a.

1:842 Silver annular rod arm-ring terminal fragment (MME: 1841,0711.637)

Severed from a plain tapered rod of circular section (D 0.35–0.15cm), with the remains of a twisted terminal (**Pl. 38**); heavily nicked for its size.

Nicks: 12. L 2.7cm. Wt 1.65g.

1:843 Silver annular rod arm-ring terminal fragment (MME: 1841,0711.651)

Closed loop severed from a plain rod of ovoid section (D 0.27–0.2cm), being the remains of a twisted terminal (**Pl. 38**).

Nicks: 2. L 1.2cm. Wt 1.73g.

1:844 Silver annular rod arm-ring terminal fragment (MME: 1841,0711.670)

Severed from a plain, slightly tapered, rod of circular section (D 0.35–0.3cm); in two pieces, one of which is a terminal in the form of a double twist (**Pl. 38**).

Nicks: 5. L 4.6cm. Wt 7.45g.

1:845 Silver annular rod arm-ring terminal fragment (MME: 1841,0711.682)

Severed at one end from a plain tapered rod of circular section (D 0.2–0.05cm), with a hooked terminal (**Pl. 38**).

Nicks: 4. L 4.1cm. Wt 3.31g.

1:846 Silver annular rod arm-ring terminal fragment (MME: 1841,0711.683)

Severed at one end from a plain tapered rod of circular section (D 0.3–0.1cm), with a looped terminal (**Pl. 38**).

Nicks: 4. L 2.8cm. Wt 2.88g.

1:847 Silver annular rod arm-ring terminal fragment (MME: 1841,0711.685)

Severed at one end from a plain thin rod of circular section (D 0.1cm), with a looped terminal; bent into a double flattened loop (**Pl. 38**).

Nicks: 2. L 4.0cm. Wt 2.44g.

1:848 Silver annular rod arm-ring terminal fragment (MME: 1841,0711.687)

Straightened and severed at one end from a plain tapered rod of circular section (D 0.7–0.4cm), with a straight terminal (**Pl. 38**); it joins fragment **1:873**.

Nicks: 1. L 6.6cm. Wt 19.68g.

1:849 Silver annular rod arm-ring terminal (MME: 1841,0711.696,gg)

Severed at one end from a plain tapered rod of circular section (D 0.2–0.1cm), twisted into a spiral (**Pl. 38**).

Nicks: 0. L 1.9cm. Wt 0.62g.

1:850 Silver annular rod arm-ring, terminal fragment (MME: 1841,0711.696,hh)
Severed at both ends from a plain tapered rod of circular section (D 0.3–0.2cm), with the remains of a twisted terminal (**Pl. 38**).
Nicks: 0. L 3.1cm. Wt 1.35g.

1:851 Silver annular rod arm-ring, terminal fragment (AC: 69)
Severed at one end from a plain rod of circular section (max. D 0.7cm), which tapers to a twisted terminal; bent into a loop (**Pl. 38**).
Nicks: 9. L 6.7cm. Wt 24.75g.

1:852 Silver penannular rod arm-ring, terminal fragment (MME: 1841,0711.673)
Severed at one end from a thick plain tapered rod of circular section (D 0.75–0.5cm), roughly finished, with a flat hammered end to the terminal (D 0.7cm); bent into a closed loop (**Fig. 5.14**, no. 55; **Pl. 38**).
Nicks: 6. L 4.5cm. Wt 48.43g (drilled).

Hawkins 1847, 123, fig. 55; Bjørn and Shetelig (1940), 38 (h), fig. 10.

1:853 Silver penannular rod arm-ring, terminal fragment (MME: 1841,0711.674)
Severed at one end from a thick plain rod of circular section (D 0.7–0.5cm), which tapers to a flat terminal; bent into a closed loop (**Pl. 38**).
Nicks: 6 (pecks/slices). L 5.8cm. Wt 27.10g.

10. Rod arm-ring fragments (circular section) (1:854–82 and 1,133–42)

These are all illustrated on **Pl. 39**, except for **1,873 (Pl. 38)** and **1,133–42 (Pl. 52)**.

1:854 Silver rod arm-ring fragment (MME: 1841,0711.510)
Severed at both ends from a thick rod (D 0.7cm), with stamped decoration; opposed (conjoined) triangles, with three pellets in one and one the other (**Fig. 8.2,96**).
Nicks: 3. L 1.5cm. Wt 5.40g.

1:855 Silver rod arm-ring fragment (MME: 1841,0711.511)
Severed at both ends from a rod (0.7 x 0.65cm), with stamped decoration; opposed (conjoined) plain triangle and polygonal element (**Fig. 8.2,54**). Heavily nicked for its size.
Nicks: 10. L 1.4cm. Wt 4.65g.

1:856 Silver rod arm-ring fragment (MME: 1841,0711.522)
Severed at both ends from a slightly faceted rod (0.6 x 0.5cm), with three rows of stamped decoration across the slight angles, using a plain double-point stamp; in addition, on what would have been the main face, there are the obscure remains of further stamped and incised ornament, with two diagonal lines converging towards a transverse line linking two triangles.
Nicks: 3. L 1.0cm. Wt 1.94g.

1:857 Silver rod arm-ring fragment (MME: 1841,0711.525)
Severed at both ends from a thick plain rod (D 0.6cm); heavily nicked for its size.
Nicks: 10. L 1.5cm. Wt 3.34g.

1:858 Silver rod arm-ring fragment (MME: 1841,0711.526)
Severed at both ends from a thick plain rod (D 0.7cm).
Nicks: 6. L 2.0cm. Wt 6.73g.

1:859 Silver rod arm-ring fragment (MME: 1841,0711.627)
Severed at both ends from a plain rod (D 0.2cm) which has been twisted into a loop.
Nicks: 0. L 2.3cm. Wt 1.57g.

1:860–9 Ten silver rod arm-ring fragments (MME: 1841,0711.666,a–i and k)
Severed at both ends from plain thick rods (D 0.6–0.5cm).
Nicks: 2–16 (average: 6). L 2.9–0.8cm. Wt 4.95; 6.19; 5.32; 3.92; 3.18; 2.78; 2.26; 1.81; 1.79; 1.26g. Total Wt: 33.46g.

1:870 Silver rod arm-ring fragment (MME: 1841,0711.672)
Severed at both ends from a plain rod (D 0.25cm), with a deep parallel cut across the longer end; bent into a loop, with the shorter end twisted.
Nicks: 8. L 4.8cm. Wt 4.84g.

1:871 Silver rod arm-ring fragment (MME: 1841,0711.675)
Severed at the thick end and clipped at the other, from a plain tapered rod (D 0.45–0.2cm); bent into a loop, but otherwise in good condition, with only one nick (inside).
Nicks: 1. L 5.6cm. Wt 16.34g.

1:872 Silver rod arm-ring fragment (MME: 1841,0711.680)
Severed at both ends from a plain tapered rod (D 0.3–0.2cm), bent into a loop; heavily nicked for its size.
Nicks: 14. L 3.5cm. Wt 4.53g.

1:873 Silver rod arm-ring fragment (MME: 1841,0711.686)
Severed at both ends from a plain thick rod of sub-circular section (D 0.8 x 0.7cm), imperfectly hammered; heavily nicked. This fragment joins terminal **1:848 (Pl. 38)**.
Nicks: 12. L 5.8cm. Wt 25.75g.

1:874 Silver rod arm-ring fragment (MME: 1841,0711.689)
Severed at both ends from a plain thick rod (D 0.7cm).
Nicks: 7. L 4.4cm. Wt 15.91g.

1:875 Silver rod arm-ring fragment (MME: 1841,0711.690)
Severed at both ends from a plain thick rod (D 0.6cm), with a parallel cut-mark at one end; partly straightened.
Nicks: 5. L 4.6cm. Wt 12.74g.

1:876 Silver rod arm-ring fragment (MME: 1841,0711.691)
Severed at both ends from a plain thick rod (D 0.65cm).
Nicks: 8. L 3.85cm. Wt 13.38g.

1:877 Silver rod arm-ring fragment (MME: 1841,0711.692)
Severed at both ends from a plain thick rod (D 0.65cm).
Nicks: 2. L 3.7cm. Wt 11.9g.

1:878 Silver rod arm-ring fragment (MME: 1841,0711.693)
Severed at both ends from a plain curved rod (D 0.8cm).
Nicks: 5. L 2.25cm. Wt 8.66g.

1:879 Silver rod arm-ring fragment (MME: 1841,0711.694)
Severed at both ends from a plain curved rod (D 0.7cm).
Nicks: 3. L 3.2cm. Wt 12.46g.

1:880 Silver rod arm-ring fragment (MME: 1841,0711.695)
Severed at both ends from a plain rod (D 0.8cm), one having a spur.
Nicks: 6. L 2.1cm. Wt 8.50g.

1:881 Silver rod arm-ring fragment (AC: 158)
Severed at both ends from a plain rod (D 0.35cm).
Nicks: 0. L 0.7cm. Wt 0.56g.

Assheton collection: ex-Moore (Burton's, April 1848, lot 323; **Cat. Fig. 2**).

1:882 Silver rod arm-ring fragment (LM: 53.114.41A)
Severed at both ends from a plain curved rod (D 0.6cm).
Nicks: 3. L 1.8cm. Wt 4.36g.

Nelson collection: ex-Richardson; ex-Shaw; ex-Drabble (Glendining's, December 1943, lot 1206); Shetelig (ed.) 1954, fig. 85.

11. Rod arm-rings (lozenge section), and terminal fragments (1:883–99)

1:883 Silver annular lozenge-rod arm-ring (MME: 1841,0711.426)
Oval ring, formed from a plain tapered rod of square section (max. 0.9 x 0.9cm), with its ends joined in a loose (one and a half) twist (**Fig. 5.15**, no. 48; **Pl. 40**); in good condition, although heavily nicked on all angles (one used for the modern drill-hole).
Nicks: 19. D 9.2cm. Wt 62.96g (drilled).

Hawkins 1847, 121, fig. 48; Bjørn and Shetelig (1940), 38 (e), fig. 11.

1:884 Silver annular lozenge-rod arm-ring (MME: 1841,0711.429)
Plain tapered rod of rectangular section (max. 0.6 x 0.5cm), with its ends joined in a tight (three and a half) twist; flattened into a figure-of-eight shape (**Fig. 5.15**, no. 49; **Pl. 40**).
Nicks: 3. L 9.2cm. Wt 26.99g (drilled).

Hawkins 1847, 121, fig. 49; Bjørn and Shetelig (1940), 38 (e), fig. 9.

1:885 Silver annular lozenge-rod arm-ring (lost)

Lost: plain tapered rod, apparently of square section (*c.* 0.5cm), with its ends joined in a twisted terminal; bent into a double loop (**Pl. 40**).

Nicks ? L *c.* 8.5cm. Wt ?

Hugo 1853, pl. 37, fig. 3.

1:886 Silver annular lozenge-rod arm-ring (MME: 1841,0711.428)

Plain tapered rod of square section (max. 0.4 x 0.4cm), with a looped terminal, but the other end missing; bent out of shape, and with the complete end bent into a loop (**Pl. 40**).

Nicks: 5. L 7.1cm. Wt 18.02g.

1:887,a–b Silver annular lozenge-rod arm-ring (AC: 68)

Broken into two pieces; plain tapered rod of square section (max. 0.6 x 0.6cm), which had its ends joined in a (three twist) terminal, but with one broken away so that it is no longer complete; bent (**Pl. 40**).

Nicks: 2. L (a) 8.0; (b) 9.1cm. Wt (a) 19.60; (b) 10.32g. Total Wt 29.92g.

1:888–9 Silver (pen)annular (unfinished) lozenge-rod arm-ring (MME: 1841,0711.577 and 681)

Plain tapered rod of square section (0.3 x 0.3–0.15 x 0.15cm), cut in two when still straight, so never formed into a penannular arm-ring; the larger piece (**1:888**) was subsequently bent into a figure-of-eight shape, with the smaller fragment (**1:889**) remaining straight (**Pl. 40**).

Nicks (**888**): 4. L 6.65cm. Wt 2.37g. Nicks (**889**): 8. L (loop) 4.1cm. Wt 6.28g. Total Wt 8.65g.

1:890 Silver penannular lozenge-rod arm-ring (LM: 53.114.27)

Small, with flat ends to its terminals; the plain tapered rod, of square section (0.6 x 0.6cm), has had its angles modified by hammering, and its ends bent in so as to overlap and form a closed loop (**Pl. 41**).

Nicks: 1. D (loop) 4.4cm. Wt 18.12g.

Nelson collection: ex-Richardson; ex-Shaw; ex-Drabble (Glendining's, December 1943, lot 1206; Shetelig (ed.) 1954, fig. 85.

1:891 Silver annular lozenge-rod arm-ring (AC: 99)

Oval ring formed from a tapered rod of square section (max. 0.56 x 0.56cm), with its ends joined in a (two/three twist) terminal, with stamped ornament (**Pl. 41**). The front parts of its outer two faces are both decorated with a row of stamping created with a plain punch consisting of a triangle on a polygonal element (**Fig. 8.2,55**). The ring is in excellent condition, although extensively tested (with ten nicks and many small slices).

Nicks: 29. D 8.35cm. Wt 26.54g.

1:892 Silver annular lozenge-rod arm-ring (MME: 1841,0711.425)

Formed from a tapered rod of square section (max. 0.4 x 0.4cm), its overlapping ends terminating in simple twists, with stamped decoration (**Fig. 5.15**, no. 50; **Pl. 41**). Three faces are each decorated with a row of stamping created with a plain opposed (unlinked) triangular punch (**Fig. 8.2,80**). The ring has been flattened into an oval shape, but is otherwise in good condition.

Nicks: 4 (1 on each angle). D 8.2cm. Wt 26.13g (drilled).

Hawkins 1847, 121–2, fig. 50; Bjørn and Shetelig (1940), 38 (e3), fig. 10.

1:893 Silver lozenge-rod arm-ring fragment (AM: 1909.539)

Severed at both ends from a tapered rod of rectangular section (0.6 x 0.7–0.4 x 0.5cm), with a row of stamped ornament along its two outer faces; bent into a closed loop (**Cat. Fig. 18**; **Pl. 41**). The decoration consists of alternating triangles, with the stamp containing three pellets (**Fig. 8.2,19**). Heavily nicked, on all four original angles.

Nicks: 19 (6/4/1/8). L 4.1cm. Wt 15.21g.

Evans collection; Thompson 1956, pl. xii,a.

Cat. Figure 18 Fragment of a lozenge-rod arm-ring (**1:893**), with stamped decoration (Ashmolean Museum)

1:894 Silver annular lozenge-rod arm-ring terminal fragment (MME: 1841,0711.427)

Severed at both ends from a plain rod of square section (max. 0.6 x 0.6cm), which tapers to a (two twist) terminal, but otherwise the ring has been cut approximately in half; bent, and much scratched (**Pl. 41**).

Nicks: 7. L 6.2cm. Wt 21.99g.

1:895 Silver annular lozenge-rod arm-ring terminal fragment (MME: 1841,0711.553)

Severed at one end from a plain rod of square section, which tapers to a straight terminal (0.7 x 0.7–0.4 x 0.45cm), with parallel cut across the other; bent (**Pl. 41**).

Nicks: 7. L 3.6cm. Wt 7.60g.

1:896 Silver annular lozenge-rod arm-ring terminal fragment (MME: 1841,0711.561)

Severed at one end from a plain rod of square section, which tapers to a slightly rounded terminal (0.5 x 0.5–0.3 x 0.3cm); bent (**Pl. 41**).

Nicks: 3. L 3.9cm. Wt 4.13g.

1:897 Silver annular lozenge-rod arm-ring terminal fragment (MME: 1841,0711.573)

Severed at one end from a plain rod of square section, which tapers to a straight terminal (0.5 x 0.5–0.35 x 0.35cm); straightened (**Pl. 41**). Poorly finished, and very heavily nicked for its size, across all four angles.

Nicks: 20 (6/4/6/4). L 2.9cm. Wt 3.32g.

1:898 Silver annular lozenge-rod arm-ring terminal fragment (MME: 1841,0711.574)

Severed at one end from a plain rod of square section, with flattened inner and outer angles, and rounded upper and lower, which tapers slightly to its rounded terminal (0.4 x 0.4–0.35 x 0.35cm); slightly curved (**Pl. 41**).

Nicks: 8. L 2.3cm. Wt 2.37g.

1:899 Silver annular lozenge-rod arm-ring terminal fragment (MME: 1841,0711.696,ii)

Severed at one end from a plain rod of square section which tapers to straight terminal; bent into a loop (**Pl. 41**).

L 1.3cm. Wt 1.55g.

12. Rod arm-ring fragments (lozenge/square section) (1:900–58)

These are all illustrated on **Pl. 42**.

1:900 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.513)

Severed at both ends from a rod of rectangular section (0.7 x 0.8cm), with facetted angles and stamped ornament across three of them; straightened (**Pl. 42**). The 'hour-glass' stamp consists of plain opposed (conjoined) triangles (**Fig. 8.2,56**).

Nicks: 2. L 2.0cm. Wt 6.67g.

1:901 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.514)

Severed at both ends from a square-sectioned rod (0.75 x 0.75cm), with a row of stamped ornament along both outer faces; straightened (**Pl. 42**). The 'hour-glass' stamp consists of a pair of opposed (conjoined) sub-triangular elements, both containing a single pellet (**Fig. 8.2,93**). Heavily nicked for its size, on all four original angles; cf. **1:902–3** and **905**.

Nicks: 13 (3/3/4/3). L 1.8cm. Wt 4.86g (drilled).

1:902 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.515)

Severed at both ends from a square-sectioned rod (0.9 x 0.9cm), with a row of alternating stamped ornament along both outer faces; straightened (**Pl. 42**). The 'dagger-like' stamp consists of a lozenge containing three pellets on a pair of lobes, which both contain a single pellet (**Fig. 8.2,109**). Heavily nicked for its size, on three of its original angles.

Nicks: 11 (0/3/4/4). L 1.6cm. Wt 5.87g (drilled).

1:903 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.516)

Severed at both ends from a square-sectioned rod (0.9 x 0.9cm), with a row of stamped ornament along both its outer faces; straightened (**Pl. 42**). The stamps consist of an oval containing a single pellet (**Fig. 8.3,23**), alternating with a C-shape (**Fig. 8.4,3**). Heavily nicked for its size, on all four original angles.

Nicks: 13 (1/6/3/3). L 1.6cm. Wt 6.73g.

1:904 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.517)

Severed at both ends from a square-sectioned rod (0.6 x 0.6cm), with a row of stamped ornament along both its outer faces (**Pl. 42**). The 'mini-bar' stamp consists of a lozenge containing a single pellet, between two V-shapes (**Fig. 8.2,114**).

Nicks: 2. L 1.3cm. Wt 1.74g.

1:905 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.518)

Severed at both ends from a square-sectioned rod (0.6 x 0.6cm), with a row of ring- stamped ornament (**Fig. 8.3,24**) along three adjacent faces and the intermediate angles; slightly curved (**Pl. 42**). Heavily nicked for its size, on all four original angles.

Nicks: 13 (5/2/1/5). L 2.15cm. Wt 3.96g.

1:906 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.519)

Severed at both ends from a rod of rectangular section (0.5 x 0.45cm), with a row of stamped ornament across its outer angle; straightened (**Pl. 42**). The plain 'hour-glass' stamp consists of a pair of opposed (conjoined) triangles (**Fig. 8.2,57**).

Nicks: 6. L 2.6cm. Wt 3.35g.

1:907 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.520)

Severed at both ends from a rod of rectangular section (0.6 x 0.45cm), with a row of stamped ornament along both its outer faces; straightened (**Pl. 42**). The bar-stamp contains a minimum of five pellets (**Fig. 8.1,37**).

Nicks: 5. L 1.4cm. Wt 1.90g.

1:908 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.530)

Severed at both ends from a thick rod of square section (1.05 x 1.05cm), with a row of stamped ornament across its outer angles; curved (**Pl. 42**). The plain 'hour-glass' stamp consists of a pair of conjoined lozenges (**Fig. 8.2,58**). Heavily nicked for its size.

Nicks: 12. L 1.5cm. Wt 11.68g.

1:909 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.531)

Severed at both ends from a square-sectioned rod (0.6 x 0.6cm), with a row of stamped ornament along three adjacent faces; strongly curved (**Pl. 42**). The 'hour-glass' stamp consists of a pair of plain opposed (conjoined) triangles, one with a flawed edge (**Fig. 8.2,81**).

Nicks: 9. L 1.4cm. Wt 2.92g.

1:910 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.548)

Severed at both ends from a square-sectioned rod (0.6 x 0.6cm), with a row of stamped ornament across the mid-part of its outer angle; bent into a loop (**Pl. 42**). The surviving decoration consists of three pairs of plain inward-facing triangles.

Nicks: 6. L 3.9cm. Wt 17.89g.

1:911 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.612)

Severed at both ends from a square-sectioned rod (0.4 x 0.4cm), with the remains of a row of stamped decoration along all four faces (**Pl. 42**). The exact shape of the stamp cannot now be determined, but is a distinctive variant of the common ring-stamp, its ovoid field having a protuberance on one end.

Nicks: 1. L 1.3cm. Wt 1.08g.

1:912 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.613)

Severed at both ends from a square-sectioned rod (0.4 x 0.4cm), with traces of a row of stamped decoration along all four faces (**Pl. 42**). The exact shape of the stamp cannot now be determined, but it appears to have been a variant of the common pellet-in-triangle stamp, with the addition of a second (smaller) pellet in the apex.

Nicks: 1. L 0.9cm. Wt 0.70g.

1:913 Silver lozenge-rod arm-ring fragment (AC: 91)

Severed at both ends from a rod of square section (0.5 x 0.5cm), with a row of stamped ornament on three adjoining faces; straightened (**Pl. 42**). The decoration consists of two rows of a plain opposed (conjoined) triangle stamp (**Fig. 8.2,59**), and the third is of a triangle containing three pellets (**Fig. 8.2,18**). Nicked on all four original angles.

Nicks: 9 (3/3/2/1). L 1.2cm. Wt 2.18g.

1:914 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.536)

Severed at both ends from a plain rod of rectangular section (1.2 x 1.1cm); curved (cf. **1:915**).

Nicks: 6. L 3.9cm. Wt 25.53g.

1:915 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.537)

Severed at both ends from a rod of rectangular section (1.2 x 1.1cm); curved (cf. **1:914**).

Nicks: 9. L 3.5cm. Wt 20.00g.

1:916 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.538)

Severed at both ends from a plain, slightly tapered, rod of rectangular section (0.9 x 1.0–0.8 x 0.8cm), with flattened angles; curved. Heavily nicked, on all four original angles.

Nicks: 15 (1/5/5/4). L 3.8cm. Wt 18.27g.

1:917 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.539)

Severed at both ends from a plain rod of square section (0.95 x 0.95cm); strongly curved.

Nicks: 4 (2 on both upper and lower angles). L 3.2cm. Wt 17.01g.

1:918 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.540)

Severed at both ends from a plain rod of square section (1.00 x 1.00cm); curved. Heavily nicked, on all four original angles.

Nicks: 15 (4/3/3/5). L 3.1cm. Wt 15.92g.

1:919 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.541)

Severed at both ends from a plain, slightly tapered, rod of square section (0.9 x 0.9–0.75 x 0.75cm); slightly curved. Nicked on all four original angles.

Nicks: 9 (3/2/3/1). L 3.45cm. Wt 12.75g.

1:920 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.542)

Severed at both ends from a plain rod of square section (0.95 x 0.95cm); straightened. Very heavily nicked for its size, on all four original angles (25) and a cut end (1).

Nicks: 26 (7/6/7/5). L 2.3cm. Wt 10.90g.

1:921 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.543)

Severed at both ends from a plain rod of square section (0.95 x 0.95cm), with flattened angles; straightened. Heavily nicked, on all four original angles.

Nicks: 13 (2/3/3/5). L 2.2cm. Wt 10.38g.

1:922 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.544)

Severed at both ends from a plain rod of square section (0.6 x 0.6cm); curved.

Nicks: 4 (2 on both upper and lower angles). L 5.5cm. Wt 13.65g.

1:923 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.545)

Severed at one or both ends from a plain rod of square section (0.5 x 0.5cm); part bent into a closed loop, with a twisted end. Given its distorted shape and the possibility that one end is complete, together with its pitted surface, it is probable that it is unfinished.

Nicks: 6. L 4.9cm. Wt 21.44g.

1:924 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.546)

Severed at both ends from a plain rod of square section (0.45 x 0.45cm); bent into a closed loop, with overlapping ends.

Nicks: 2. L 3.45cm. Wt 11.38g.

1:925 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.547)

Severed at both ends from a plain tapered rod of square section (0.6 x 0.6–0.3 x 0.3cm); straightened, but with the narrow end bent back into a closed loop.

Nicks: 3. L 3.6cm. Wt 11.33g.

1:926 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.549)

Severed at both ends from a plain rod of square section (0.6 x 0.6cm); bent into a loop. Although finely finished, it has been nicked on all four original angles.

Nicks: 12 (3/3/3/3). L 4.1cm. Wt 16.88g.

1:927 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.550)

Severed at both ends from a plain rod of square section (0.5 x 0.5cm); bent into a loop. It has been tested with three nicks, one on each on its outer angles, combined with a group of thirteen small chips taken from the inner angle (within the bend).

Nicks: 16. L 4.1cm. Wt 13.43g.

1:928 Silver lozenge-rod (annular) arm-ring fragment (MME: 1841,0711.551)

Severed at both ends from a plain tapered rod of square section (0.5 x 0.5–0.25 x 0.25cm); straightened, but with the narrow end bent into a loop (and broken where it would have begun to form a twisted terminal). Although finely finished, it has been very heavily nicked, on all four original angles.

Nicks: 28 (6/4/12/6). L 4.5cm. Wt 7.89g.

1:929 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.552)
Severed at both ends from a plain rod of square section (0.6 x 0.6cm), crudely finished; bent into a loop, with a deep transverse cut (preparatory for breaking in two).
Nicks: 8. L 3.4cm. Wt 8.92g.

1:930 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.554)
Severed at both ends from a plain rod of square section (0.7 x 0.7cm); strongly curved.
Nicks: 5. L 2.3cm. Wt 7.21g.

1:931 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.555)
Severed at both ends from a plain rod of square section (0.7 x 0.7cm); curved.
Nicks: 5 (in one group). L 3.5cm. Wt 9.42g.

1:932 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.556)
Severed at both ends from a plain rod of square section (0.7 x 0.7cm); slightly curved.
Nicks: 6. L 3.8cm. Wt 9.96g.

1:933 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.557)
Severed at both ends from a plain rod of square section (0.7 x 0.7cm), with flattened angles; curved.
Nicks: 4. L 2.6cm. Wt 7.40g.

1:934 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.558)
Severed at both ends from a plain rod of square section (0.65 x 0.6cm), but with rounded outer face; curved. Heavily nicked for its size, on all four original angles.
Nicks: 13 (4/2/3/4). L 2.3cm. Wt 5.09g.

1:935 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.559)
Severed at both ends from a plain rod of square section (0.5 x 0.5cm); twisted and bent, with considerable cracking along inner edge. Heavily nicked, on all four original angles.
Nicks: 17 (4/2/6/5). L 4.8cm. Wt 6.69g.

1:936 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.560)
Severed at both ends from a plain tapered rod of square section (0.6 x 0.6–0.4 x 0.4cm); curved.
Nicks: 2 (1 on both upper and lower angles). L 4.5cm. Wt 7.13g.

1:937 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.562)
Severed at both ends from a plain rod of square section (0.6 x 0.6cm); slightly curved. In fresh condition, with no nicks.
Nicks: 0. L 2.35cm. Wt 4.44g.

1:938 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.563)
Severed at both ends from a plain rod of square section (0.55 x 0.55cm); curved. Heavily nicked for its size, on all four original angles.
Nicks: 14 (2/3/4/5). L 2.4cm. Wt 3.84g.

1:939 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.564)
Severed at both ends from a plain rod of square section (0.6 x 0.6cm); slightly curved.
Nicks: 6. L 2.1cm. Wt 3.42g.

1:940 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.565)
Severed at both ends from a plain rod of square section (0.5 x 0.45cm), but with rounded angles; curved. Heavily nicked for its size, on all four original angles.
Nicks: 12 (1/3/4/4). L 1.75cm. Wt 2.41g.

1:941 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.566)
Severed at both ends from a plain rod of square section (0.6 x 0.6cm); straightened. Heavily nicked for its size, on all four original angles.
Nicks: 11 (2/4/1/4). L 2.1cm. Wt 3.92g.

1:942 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.567)
Severed at both ends from a plain rod of square section (0.6 x 0.6cm); straightened.
Nicks: 4 (1/1/0/2). L 1.6cm. Wt 2.80g.

1:943 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.568)
Severed at both ends from a plain rod of square section (0.7 x 0.7cm), but with the outer angle removed with a couple of slices (before a nick); slightly curved.
Nicks: 5 (0/1/2/2). L 1.1cm. Wt 2.32g.

1:944 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.569)
Severed at both ends from a plain rod of square section (0.6 x 0.6cm), with one edge having a second cut; straightened.
Nicks: 7. L 1.2cm. Wt 2.06g.

1:945 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.570)
Severed at both ends from a plain rod of square section (0.5 x 0.5cm); curved.
Nicks: 9 (2/3/1/3). L 1.3cm. Wt 1.67g.

1:946 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.571)
Severed at both ends from a plain rod of square section (0.45 x 0.45cm); curved.
Nicks: 6 (1/2/1/2). L 1.05cm. Wt 1.07g.

1:947 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.572)
Severed at both ends from a plain rod of square section (0.45 x 0.45cm); slightly curved.
Nicks: 3 (1/0/1/1). L 1.3cm. Wt 1.11g.

1:948 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.575)
Severed at both ends from a plain rod of square section (0.4 x 0.4cm), with rounded angles; slightly curved. Heavily nicked for its size, on all four original angles.
Nicks: 13 (1/4/4/4). L 2.15cm. Wt 2.25g.

1:949 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.576)
Severed at both ends from a plain tapered rod of square section (0.4 x 0.4–0.3 x 0.3cm), with rounded inner and outer angles; slightly curved.
Nicks: 2 (on different angles). L 2.4cm. Wt 2.17g.

1:950 Silver lozenge-rod arm-ring (terminal) fragment (MME: 1841,0711.578)
Severed at one or both ends from a narrow plain rod of rectangular section (0.3 x 0.25–0.2 x 0.1cm), but the narrowest end is rounded; slightly curved. This slight fragment could be a terminal from an unfinished(?) arm-ring, with no nicking.
Nicks: 0. L 1.6cm. Wt 0.50g.

1:951 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.579)
Severed at both ends from a narrow plain, slightly tapered, rod of square section (0.25 x 0.25–0.15 x 0.15cm); slightly curved. This slight fragment could be from the terminal area of an annular arm-ring.
Nicks: 1. L 1.3cm. Wt 0.40g.

1:952 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.580)
Severed at both ends from a plain rod of square section (0.6 x 0.6cm); curved, and twisted at one end. Two pairs of diagonally intersecting lines are scratched on one face.
Nicks: 1. L 2.6cm. Wt 5.41g.

1:953 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.581)
Severed at both ends from a plain rod of square section (0.35 x 0.35cm); curved, and twisted at one end.
Nicks: 4 (1/0/2/1). L 1.8cm. Wt 1.43g.

1:954 Silver lozenge-rod arm-ring fragment (MME: 1841,0711.582)
Severed at both ends from a plain rod of rectangular section (0.5 x 0.45cm); slightly curved and twisted.
Nicks: 2. L 3.8cm. Wt 5.45g.

1:955 Silver lozenge-rod (annular) arm-ring fragment (MME: 1841,0711.678)
Severed at both ends from a plain tapered rod of rectangular section (0.4 x 0.3–0.2 x 0.2cm), with flattened angles at the wider end; straightened, but the narrow end is bent back into a hook shape (and presumably formed part of a twisted terminal).
Nicks: 2. L 4.1cm. Wt 3.83g.

1:956 Silver lozenge-rod arm-ring fragment (AC: 156)
Severed at both ends from a plain rod of square-section (0.8 x 0.8cm), with its inner angle flattened; slightly curved.
Nicks: 6. L 1.3cm. Wt 4.59g.
Assheton collection: ex-Moore (Burton's, April 1848, lot 323; **Cat. Fig. 2**).

1:957 Silver lozenge-rod arm-ring fragment (AM: 1909.531)
Severed at both ends from a plain tapered rod of square section (0.8 x 0.8–0.6 x 0.6cm);

slightly curved.
Nicks: 0. L 2.1cm. Wt 6.21g.

XRF-analysis, by Fiona Macalister (1992) Cu: 1.93; Zn: n.d.; Au: 0.65; Pb: 1.01; Ag: 97.30; Bi: n.d.; Sn: <0.40; 'silver' = 99.0%.

Evans collection: Thompson 1956, pl. xii,a; Macalister in Kruse and Tate 1992, 325.

1:958 Silver lozenge-rod arm-ring fragment (LM: 53.114.61)

Severed at both ends from a plain rod of rectangular section (0.7 x 0.8cm), with flattened inner angle; slightly curved (**Pl. 43**).
Nicks: 6(+). L 1.8cm. Wt 5.12g.

Nelson collection: Shetelig (ed.) 1954, fig. 86.

13. Rod arm-ring (polygonal section), and fragments (1:959–72 and 1:1,062)

These are illustrated on **Pl. 43**, except for **1:965–72 (Pl. 42)** and **1,062 (Pl. 49).**

1:959 Silver polygonal-rod arm-ring terminal fragment (MME: 1841,0711.714)

Severed at one end from a rod of octagonal section, which tapers to a plain straight terminal (0.7 x 0.7–0.5 x 0.5cm), with stamped ornament; straightened, and cracked at the start (**Pl. 43**). All four main faces are decorated with a longitudinal row of opposed plain triangles (**Fig. 8.2,4**), either with their points touching (to form 'hour-glasses') or interlocking (so as to leave a plain zigzag between them). The transition between these rows of ornament and the plain terminal is marked by a triangle formed by three impressions of a ring-stamp (**Fig. 8.3,26**).
Nicks: 6. L 9.0cm. Wt 24.64g (drilled).

1:960 Silver polygonal-rod arm-ring fragment (MME: 1841,0711.508)

Severed at both ends from a tapered rod of octagonal section (1.1–0.7cm), with stamped ornament (**Fig. 5.14**, no. 65; **Pl. 43**); bent out of shape. Each of its three outer faces is decorated with a longitudinal row of stamping created with an opposed (conjoined) triangle punch, both elements containing three pellets (**Fig. 8.2,99**). Its surface is in poor/corroded condition, but there appear to be five nicks across the undecorated faces and angles.
Nicks: 5. L 4.5cm. Wt 48.5g (drilled).

Hawkins 1847, 126, fig. 65; Bjørn and Shetelig 1940, 40 (p), fig. 11.

1:961 Silver polygonal-rod arm-ring fragment (AM: 1909.542)

Severed at both ends from a rod of octagonal section (0.7 x 0.7cm), with stamped ornament; slightly curved (**Pl. 43**). Each of its five outer faces is decorated with a longitudinal row of stamping, created with a lozenge-shaped punch containing a central pellet (**Fig. 8.2,39**).
Nicks: 8. L 2.6cm. Wt 9.36g.

Evans collection: Thompson 1956, pl. xii,a.

1:962 Silver polygonal-rod arm-ring fragment (MME: 1841,0711.509)

Severed at both ends from a rod of octagonal section (0.6 x 0.6cm), with stamped ornament; slightly curved (**Pl. 43**). Each of its six outer faces is decorated with a longitudinal row of a plain opposed (conjoined) sub-triangular stamp (**Fig. 8.2,60**).
Nicks: 0. L 2.5cm. Wt 6.31g (drilled).

1:963 Silver polygonal-rod arm-ring fragment (MME: 1841,0711.512)

Severed at both ends from a thick rod of octagonal section (1.1 x 1.1cm), with stamped ornament (**Pl. 43**). Its two outer faces are both decorated with a longitudinal row of an opposed (conjoined) triangle stamp, both elements containing a pellet (**Fig. 8.2,92**).
Nicks: 4. L 1.4cm. Wt 8.94g.

1:964 Silver polygonal-rod arm-ring fragment (MME: 1841,0711.521)

Severed at both ends from a rod of octagonal section (0.6 x 0.6cm), with stamped ornament; straightened (**Pl. 43**). Its three outer faces are each decorated with a longitudinal row of a crudely made punch consisting of a pair of opposed (conjoined) sub-triangular elements (incomplete), both containing pellets (**Fig. 8.2,102**).
Nicks: 9. L 7.35cm. Wt 7.35g (drilled).

1:965 Silver polygonal-rod arm-ring fragment (MME: 1841,0711.527)

Severed at both ends from a plain thick rod of octagonal section (1.2 x 1.2cm), with one angle sheared off; curved.
Nicks: 9. L 2.7cm. Wt 28.24g.

1:966 Silver polygonal-rod arm-ring fragment (MME: 1841,0711.528)

Severed at both ends from a plain rod of octagonal section (0.8 x 0.8cm), with heavy nicking; straightened, but bent at one end.
Nicks: 11. L 4.7cm. Wt 26.21g (drilled).

1:967 Silver polygonal-rod arm-ring fragment (MME: 1841,0711.529)

Severed at both ends from a plain rod of octagonal section (0.8 x 0.8cm), with three blows at one end; curved.
Nicks: 5. L 5.5cm. Wt 25.53g.

1:968 Silver polygonal-rod arm-ring fragment (MME: 1841,0711.532)

Severed at both ends from a plain rod of octagonal section (0.6 x 0.55cm); strongly curved.
Nicks: 3. L 1.9cm. Wt 4.63g.

1:969 Silver polygonal-rod arm-ring fragment (MME: 1841,0711.533)

Severed at both ends from a plain rod of octagonal section (0.5 x 0.5cm), with a parallel cut at one; slightly curved.
Nicks: 4. L 1.5cm. Wt 2.55g.

1:970 Silver polygonal-rod arm-ring fragment (MME: 1841,0711.534)

Severed at both ends from a plain rod of octagonal section (0.6 x 0.7cm); slightly curved.
Nicks: 9. L 1.6cm. Wt 4.70g.

1:971 Silver polygonal-rod arm-ring fragment (MME: 1841,0711.696,ee)

Severed at both ends from a plain rod.
L 1.5cm. Wt 1.58g.

1:972 Silver polygonal-rod arm-ring fragment (MME: 1841,0711.696,ff)

Severed at both ends from a plain rod.
L 3.0cm. Wt 2.80g.

14. Rod (coiled) arm-ring fragments (oval/D-shaped section) (1:973–7)

These coiled rod arm-ring fragments are all illustrated on **Pl. 43.**

1:973 Silver rod fragment (MME: 1841,0711.524)

Rod of oval section (0.3 x 0.35cm), with a row of alternating stamped ornament; cut and broken at both ends and bent into a U-shaped loop. The larger of the two stamps consists of a pair of (unlinked) parallel bar-shaped elements, one containing a pair of pellets and the other one (**Fig. 8.2,116**); the second is a simple ring-stamp (**Fig. 8.3,22**).
Nicks: 3. L 2.1cm. Wt 3.03g.

1:974 Silver rod fragment (MME: 1841,0711.697,c)

Plain rod of oval section (0.3 x 0.2cm); severed at both ends.
Nicks: 2. L 1.4cm. Wt 0.64g.

1:975 Silver rod fragment (MME: 1841,0711.711)

Rod of oval section (0.4 x 0.6cm), with a row of stamped ornament; severed at both ends. The stamp is lozenge-shaped, containing a pellet (**Fig. 8.2,40**).
Nicks: 1. L 2.0cm. Wt 2.83g.

1:976 Silver rod fragment (MME: 1841,0711.712)

Rod of D-shaped section (0.4 x 0.25cm), with a row of stamped ornament; it has been straightened and severed at both ends. The stamp consists of two conjoined oval elements, both containing a pellet, although one is incomplete (**Fig. 8.2,94**).
Nicks: 1. L 3.7cm. Wt 2.58g.

1:977 Silver rod fragment (AC: 157)

Rod of oval section (0.4 x 0.34cm), with a row of stamped ornament; severed at both ends. There are the remains of three impressions of a plain opposed (conjoined) triangle stamp (**Fig. 8.2,61**), and one of a plain triangle (**Fig. 8.2,5**).
Nicks: 1. L 0.7cm. Wt 0.68g.

Assheton collection: ex-Moore (Burton's, April 1848, lot 323; **Cat. Fig. 2**).

15. Finger-rings (1:978–94 and 837; see also 1,152–3)

These finger-rings are illustrated on **Pl. 44**, except for **1:837 (Pl. 38)** and **1,152–3** (**Pl. 53**).

(a) Band (1:978–86 and 837)

1:978 Silver penannular finger-ring terminal fragment (MME: 1841,0711.361)

Plain band (0.9 x 0.3cm), tapering to a straight-ended terminal (0.6 x 0.2cm); it has been cut approximately in half, through the inside of the gap between its terminals, and heavily nicked.

Nicks: 16. L 1.8; D (estimated) *c.* 2.0cm. Wt 4.25g.

1:979–80 Silver finger-ring hoop fragments (MME: 1841,0711.721)

Narrow band (0.45 x 0.2cm), cut and broken across both ends, it was bent into a loop during/after which it broke into two pieces, but before it reached the British Museum (cf. Hawkins 1847, fig. 19); it has a longitudinal row of stamped decoration in the form of a pair of plain opposed (unlinked) triangles between two transverse bars (**Fig. 8.2,71**).

Nicks: 2 (= 1 each). L 1.9 and 1.5cm. Wt 1.76 and 1.37g (total: 3.13g).

Hawkins 1847, 115, fig. 19 (one fragment only); Bjørn and Shetelig 1940, 33 (c. 8).

1:981 Silver finger-ring hoop fragment (MME: 1841,0711.723)

Narrow band (0.35 x 0.15cm), formed from two pairs of twisted wires, soldered together in herringbone fashion; it has been broken at both ends, approximately in half (**Cat. Fig. 19**).

Nicks: 0. D 2.0cm. Wt 0.98g.

Hawkins 1847, 128, fig. 74; Bjørn and Shetelig 1940, 42 (s.2), fig. 12.

Cat. Figure 19 Finger-ring hoop fragment (**1:981**), of twisted wires

1:982 Silver annular finger-ring (AC: 109)

Broad band (1.1 x 0.1cm), tapering to rods which are closed in a spiral twist, with stamped ornament (**Fig. 5.16,** no. 69). The decoration consists of three longitudinal rows of an irregularly applied stamp, in the form of a pair of opposed (conjoined) triangles, both containing three pellets, one of which is linked to the base (**Fig. 8.2,100**).

Nicks: 8. D 1.9cm. Wt 4.22g.

Hawkins 1847, 127, fig. 69; Bjørn and Shetelig 1940, 40 (r.3).

1:983 Silver annular finger-ring (AC: 110)

Narrow plain band (0.44 x 0.1cm), tapering to rods, which have their ends twisted once around each other; in good condition.

Nicks: 1. D 2.3cm. Wt 1.88g.

1:984 Silver annular finger-ring (AC: 111)

Narrow band (0.6 x 0.08cm), tapering to rods, which have their ends twisted four times around each other, with the central part of this 'slip-knot' hammered flat; it has stamped ornament (**Fig. 5.16**, no. 68) and forms a non-identical pair with **1:985**. The decoration consists of three longitudinal rows of two stamps, both on their sides: that used for the central row consists of a pair of opposed (conjoined) triangles, both containing three pellets (**Fig. 8.2,101**), bordered by rows of a small, plain, double (conjoined) stamp (**Fig. 8.2,62**). The ring is well made and in good condition (with only one tiny nick/slice), as is **1:985**.

Nicks: 1. D 2.1cm. Wt 1.88g.

Hawkins 1847, 127, fig. 68; *BM Anglo-Saxon Guide* (1923), 107, fig. 132,7; Bjørn and Shetelig 1940, 40 (r.2).

1:985 Silver annular finger-ring (LM: 53.114.28)

Narrow band (0.7 x 0.1cm), tapering to rods which have their ends twisted twice around each other; it has related (but vertical) stamped ornament to that of **1:984**, with which it forms a non-identical pair. Although differently orientated, the three longitudinal rows of decorations were created using the same two stamps, with the central one consisting of seventeen impressions. Although ovoid in shape, this ring is as well made and such good condition (with no nicks) as **1:984**. A small piece of paper stuck inside, was inscribed with the letter 'G', presumably for Lord Grantley on the occasion of its loan, by him, to the *Dark Ages in Europe* exhibition (1930), together with **1:428**.

Nicks: 0. 1.9 x 2.2cm. Wt 3.04g.

Nelson collection, no. 28 (ex-Assheton; ex-Richardson; ex-Grantley); *Dark Ages Exhibition* (1930), 83, Case P, no. 16; Shetelig 1954, fig. 85.

1:986 Silver annular finger-ring (lost)

Lost: plain band with an ovoid bezel, tapering to rods with twisted ends (**Fig. 2.3**).

Nicks? D *c.* 3.0cm. Wt?

Assheton collection: Samuel Hibbert MS, 26 May 1840 (Manchester Archives and Local Studies).

(b) Rod: single (1:987–93)

1:987 Silver penannular finger-ring (MME: 1841,0711.717)

Plain rod (D 0.4cm), tapering to overlapping terminals (D 0.2cm), with flat ends. The extent of its nicking is difficult to calculate because some cuts appear to have closed up, and one side is somewhat battered.

Nicks: 4 (minimum). D 2.5cm. Wt 5.28g.

Bjørn and Shetelig 1940, fig. 12.

1:988 Silver annular finger-ring (AC: 113)

Plain rod (D 0.2cm), with its ends closed in a spiral twist, twice on both sides, although one is broken away; one side is bent out of shape, but it is otherwise in good condition .

Nicks: 0. D 2.0cm. Wt 1.60g.

1:989 Silver annular finger-ring (LM: 53.114.29)

Plain rod (D 0.3cm), with its tapered ends twisted once around each other; in good condition, with only one nick.

Nicks: 1. D 2.2cm. Wt 18.29g.

Nelson collection (?ex-Grantley); Shetelig 1954, fig. 85.

1:990 Silver annular finger-ring (AM: 1930.627)

Plain rod (D 0.25cm), with its tapered ends twisted twice around each other; in good condition, with only one nick (**Cat. Fig. 4**).

Nicks: 1. D 2.3cm. Wt 2.45g.

Evans collection (Roach Smith, 'Notebook' (1842/3), 93; ex-Bateman: Sotheby's, 14–15 June 1893, lot 172); registered and exhibited with the wrong provenance (see p. 170): *Dark Ages Exhibition* (1930), 81, Case P, no. 4; Taylor and Scarisbrick 1978, 45, no. 239.

1:991 Silver penannular finger-ring (MME: 1841,0711.588)

Twisted plain rod of square section (0.3 x 0.3cm), with its butt-ended terminals nearly touching. It is in poor surface condition, but has only one nick on an outer angle.

Nicks: 1. D 1.9cm. Wt 2.80g.

Hawkins 1847, 127, fig. 70; Bjørn and Shetelig 1940, 40 (r.4), fig. 12.

1:992 Silver finger-ring hoop fragment (MME: 1841,0711.589)

Twisted plain rod of square section (as **1:991**, but narrower: 0.25 x 0.25cm), broken at both ends. It is in worn condition and has been nicked several times.

Nicks: *c.* 6. L 1.5cm. Wt 0.62g.

1:993 Silver (?)finger-ring hoop fragment (MME: 1841,0711.696,jj)

Narrow plain band of rectangular section (0.25 x 0.15cm), cut at both ends.

Nicks: 0. L 1.0cm. Wt 0.40g.

(c) Rods: twisted (1:994)

1:994 Silver finger-ring terminal fragment (MME: 1841,0711.628)

Terminal knot formed from a pair of plain rods (D 0.2cm), twisted together; after being cut from the finger-ring, this fragment has been subjected to heat so that some details (including nicking) have become partially obscured.

Nicks: 4(?). L 2.1cm. Wt 2.39g.

Brooches and Pins (1:995–1,061 and 1,062)

Group 1: Irish brooch tradition (1:995–1,052 and 1,062)

(a) Ball-type (including 'thistle-') brooch fragments (1:995–1,001 and 1,062)

1:995 Silver pin-head fragment from a 'thistle-brooch' (MME: 1841,0711.437)

The upper half of a 'thistle-brooch' pin-head (**Fig. 6.1**; **Pl. 45**), which is hollow cast (T 0.2cm). The flat-topped brambling on the obverse (**Fig. 8.5,2**) is executed by means of a combination of diagonal cross-filing and ring-stamping (**Fig. 8.3,27**), creating a lozenge-shaped field, but the filing is carried on around the top of the pin-head to the flat reverse, which comprises the remains of a roundel, delimited by a circular groove; incised onto this roundel is an irregular concentric circle, containing what appear to be random cut marks made before the pin-head was cut in two. It has single plain side-collars for the hoop. The pin-top is slightly rounded, with the remains of a plain terminal moulding and the suggestion of a roughly incised cross on top, from which a slice has been removed.

Nicks: 1. H 1.5; W 2.0; T 2.0cm. Wt 9.95g.

Hawkins 1847, 126, fig. 63; Bjørn and Shetelig 1940, 40 (0.2), fig. 11.

1:996 Silver pin-head fragment from a ball-type brooch (MME: 1841,0711.438)

Approximately the upper half of one side of the pin-head of a ball-type brooch, severed on three sides (**Pl. 45**). It has the remains of one plain side-collar, although the plain pin-top has a pair of incised lines forming a simple collar above a plain moulding at the junction. This is most probably part of the plain reverse of a 'thistle-brooch' pin, with its interior hollowed for the brooch-hoop (cf. **1:1,001** and **1,062**; see also **1:997**).

Nicks: 3 (+1 surface cut). H 1.0; W 1.4; T 0.8cm. Wt 5.02g.

XRF-analysis: BMRL (File 5935), by Janet Lang (1991).
Ag: 96%; Cu:2.3%; Pb: 1.0%; Au: 0.3%

1:997 Silver pin-head fragment from a ball-type brooch (MME: 1841,0711.439)

Approximately the upper half of one side of the pin-head of a ball-type brooch, being severed on two sides, with the lower edge having three cuts (**Pl. 45**). The face of the ball appears to have been fully rounded, but it has been damaged by the triple cut. As **1:996**, this is most probably part of the plain reverse of a 'thistle-brooch' pin, with its interior hollowed for the brooch-hoop.

Nicks: 1. H 1.1; W 1.3; T 0.6cm. Wt 3.93g.

1:998 Silver fragment from the left-hand hoop/terminal junction of a ball-type brooch (MME: 1841,0711.440)

Solid ball-type brooch fragment, severed on three sides (**Pl. 45**). Only a small part of the hoop survives, of circular section (D 0.6cm), with a single plain collar indicated by a pair of incised lines around the junction. The terminal ball may have been cut through at a border groove defining an area of brambling (cf. **1:999**), in which case it would have formed part of a 'thistle-brooch'.

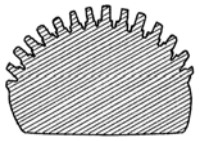
Nicks: 3. L 1.2; W 1.2; T 1.1cm. Wt 5.10g.

1:999 Silver right-hand terminal fragment from a 'thistle-brooch' (AC: 147)

Solid 'thistle-brooch' terminal fragment, cleanly cut through at both ends (**Fig. 6.1**; **Pl. 45**). The hoop is circular in section (D 0.75cm), with a plain cylindrical moulding at the junction with the terminal. The solid terminal is of D-shaped section, with its plain reverse being hammered flat (**Cat. Fig. 20**). The area of flat-topped brambling on the obverse is executed by means of a combination of diagonal cross-filing and ring-stamping; which does not continue fully around the sides; its edges are undefined by a border.

Nicks: 4. L 4.4; W 2.6; H 1.9cm. Wt 57.33g.

Hawkins 1847, 126, fig. 64; Bjørn and Shetelig 1940, 40 (0.3); Graham-Campbell 1987a, 339, fig. 11.



Cat. Figure 20 'Thistle-brooch' (**1:999**): section through terminal

1:1,000 Silver left-hand terminal fragment from a 'thistle-brooch' (AC: 148)

Solid 'thistle-brooch' terminal fragment, of D-shaped section, with the plain reverse being hammered flat (**Pl. 45**). The area of flat-topped brambling on the obverse is executed by means of a combination of diagonal cross-filing and ring-stamping; it carries over the sides where it is delimited by a groove around the bottom edge. A further groove delimits the outer edge of the brambling, so that there is an area left plain before the junction with the terminal-end, which has a single moulding. The end itself is flared, with a billeted band around its outer edge.

Nicks: 0. L 1.8; W 2.0; H 1.3cm. Wt 15.85g.

1:1,001 Silver pin-head fragment from a 'thistle-brooch' (AC: Parcel 2)

'Thistle-brooch' pin-head, mounted as the handle of a seal in the mid-nineteenth century (**Pl. 45**). This rounded pin-head (D 1.75cm), with brambled front and plain reverse, is solid except for its hoop perforation. The area of low brambling, delimited by diagonal lines, is both cross-filed and ring-stamped. Its plain pin-top consists of two mouldings, with the side-collars being no more than plain ridges.

Nicks: 2. W 1.6cm. Wt *c.* 20g(?).

The Victorian seal (by Lambert of Coventry Street, London) has an octagonal shaft and stepped base, with an oval die. It reads: 'THE CUERDALE HOARD', on a buckled strip, around the date '1840'.

H: 3.4cm. Wt (total) 36.73g.

Assheton collection, by donation to Jonathan Richardson, from whom purchased (in 1873) by Ralph Assheton.

(b) Bossed penannular brooch terminal fragments (1:1,002–15)

1:1,002 Silver fragment from a terminal plate of a bossed penannular brooch (MME: 1841,0711.450)

Brooch fragment of Johansen's (1973) 'subgroup A', in the form of a sub-rectangular plate (1.5 x 1.1cm), cut on all four sides; the central hollow-domed boss (D 0.95cm) is riveted in place and has a plain circular surround, from which emerge the billeted dividing bands, with slight traces of the engraved ornament (**Fig. 6.2**; **Pl. 46**).

Nicks: 3. T 0.2; H (with boss) 1.0cm. Wt 4.87g.

Hawkins 1847, 189, fig. 89; Bjørn and Shetelig 1940, fig. 10; Johansen 1973, 120, A17a, fig. 48,b; Graham-Campbell 1975, 46.

1:1,003 Silver fragment from the left-hand hoop/terminal junction of a bossed penannular brooch (MME: 1841,0711.460)

Brooch fragment of Johansen's (1973) 'subgroup A', cut through the animal head in profile at the hoop-terminal junction, with the other end being an ancient break, repaired on the reverse with a plain sheet of silver, now held in place by two flattened rivets because of being broken through the perforation for a third; the scrolled ends of the open-jawed animal head are visible, as is the engraved billeted border and slight traces of the other ornament (**Fig. 6.2**; **Pl. 46**). The repair on the reverse obscures its ornament, but there is a triquetra in a triangular field.

Nicks: 2. L 2.1; T 0.2cm. Wt 4.3g.

Hawkins 1847, 190, fig. 91; Bjørn and Shetelig 1940, fig. 10; Wilson 1958, 96, pl. ii, fig. 3; Johansen 1973, 120, A17e.

1:1,004 Silver fragment from the inner edge of a terminal plate of a bossed penannular brooch (MME: 1841,0711.461)

Brooch fragment of Johansen's (1973) 'subgroup A', in the form of a sub-triangular terminal plate, cut on three of its four sides, with the remains of engraved zoomorphic ornament (**Pl. 46**); the original outer edge is billeted and has a lightly incised contour line on the otherwise plain reverse. The plain band-shaped body of the animal has incised contour lines and terminates in a scroll on top of the back of the head which has been cut through, although distinguished by its cheek-line; the background is diagonally hatched.

Nicks: 3. L 1.6; T 0.2cm. Wt 2.47g.

Johansen 1973, 119, A10, fig. 48,a.

1:1,005 Silver fragment from the hoop/terminal junction of a bossed penannular brooch (MME: 1841,0711.463)

Brooch fragment in the form of a sub-triangular plate, cut on three of its four sides; the original outer edge is curved around a

crudely engraved wheel-shaped cross (**Fig. 6.2**; **Pl. 46**); the reverse is plain. The identification of this as being the hoop/terminal junction of a bossed penannular brooch of Johansen's (1973) 'subgroup A' is based on the similar cross-in-circle pattern on a bossed brooch fragment (A17f) in the Goldsborough hoard (**3:5**).

Nicks: 2. L 1.5; T 0.2cm. Wt 1.77g.

Hawkins 1847, 190, fig. 92; Johansen 1973, 120, A17h, fig. 48,h; Graham-Campbell 1975, 47, 'miscellaneous'.

1:1,006 Silver fragment from the hoop/terminal junction of a bossed penannular brooch (MME: 1841,0711.465)

Brooch fragment of Johansen's (1973) 'subgroup A', in the form of a triangular plate, cut on two of its three sides through its engraved ornament (**Pl. 46**); the reverse has a pair of lightly incised lines along the original outer edge. The remaining decoration on the front consists of what appears to be the scrolled terminal of open jaws and a contoured field filled with diagonal hatching.

Nicks: 0. L 1.1; T 0.2cm. Wt 0.95g.

Johansen 1973, 120, A17g, fig. 48,g.

1:1,007–8 Two adjoining silver fragments of the left-hand terminal plate of a bossed penannular brooch (AC: 149,a and b)

Brooch terminal cut from a two-piece variant of Johansen's (1973) 'subgroup A', after which it was cut and broken into two, from the back, with a parallel cut on the reverse of fragment **1:1,007** (**Fig. 6.2**; **Pl. 47**). It thus represents two separate pieces of hack-silver of which **1:1,007** (AC: 149,a; originally labelled '88') is the outer fragment of the terminal, and **1:1,008** the inner (AC: 149,b = '89'). The openwork upper plate is divided into three fields by billeted bands, with incised contour lines, emerging from the plain central field from which the boss is missing, whereas the two outer bosses remain riveted *in situ*; they are solid, with beaded wire collars fixed around the edge of thin circular plates (D 0.9cm). The engraved zoomorphic ornament on the upper plate is all damaged/incomplete, but consists of a pair of backward-looking birds in the large outer field, with billeted ribbon-shaped bodies and intertwined necks; the other two fields both contain a single animal, with a looped ribbon-shaped body, likewise billeted, and with a spiral joint. The reverse has (i) a lightly incised contour line; (ii) a pair of concentric circles around both corner boss-rivets; and (iii) a pair of concentric circles around the central rivet, with a third (outer) circle being lightly incised, like (i).

Nicks (**1:1,007**): 4; (**1,008**): 3. L (**1,007**) 3.8; (**1,008**) 3.7; W (original) *c.* 4.5; T (edge) 0.2; H (with boss) 0.8cm. Wt (**1,007**) 12.32; (**1,008**) 12.95g.

Hawkins 1847, fig. 94; Bjørn and Shetelig 1940, 44 (x.2); Johansen 1973, 118, A4; Graham-Campbell 1975, 46.

1:1,009 Silver fragment from the left-hand hoop/terminal junction of a bossed penannular brooch (MME: 1841,0711.459)

Brooch fragment of Johansen's (1973) 'subgroup B', cut through a plain hoop of low D-shaped section (1.0 x 0.25cm), at the junction with the terminal plate which has been cut on three sides; much scratched and battered (**Pl. 46**). The upper surface is crudely incised with a sub-triangular field containing a diagonal cross, with a lighter vertical stroke; in addition, there is an incised line parallel to the cut end. On the reverse is a pair of parallel V-shaped grooves pointing towards the centre of the terminal, replicating the triangle on the front.

Nicks: 3. L 2.85; T 0.2cm. Wt 5.66g.

Hawkins 1847, 190, fig. 93; Wilson 1958, 98–9; Johansen 1973, 121, B5a, fig. 53,a; Graham-Campbell 1975, 47, 'miscellaneous' (*recte* B5).

1:1,010 Silver fragment of the outer corner of a terminal plate of a bossed penannular brooch (MME: 1841,0711.462)

Missing: brooch fragment of Johansen's (1973) 'subgroup B' (although classified by him (*ibid.*, 120, A17d) as belonging to 'subgroup A'). It consists of the outer corner of the right-hand terminal, cut on two sides; the original outer edges have a beaded border with plain edges, enclosing the remains of (now undecipherable) ornament against a plain background which is slightly recessed (**Pl. 46**); the reverse is plain. This fragment has been missing since its scientific examination in the mid-1970s.

Nicks? L 1.6; T 0.2cm. Wt (converted) 2.66g.

The silver and copper components have been determined in the BM Research Laboratory (Lang and Graham-Campbell 1976):
Ag: 97.5 ± 1.5%; Cu: 2.5 ± 1.5%.

Johansen 1973, 120, A17d, fig. 48,e; Graham-Campbell 1975, 36, 47 (transferred to Johansen's 'subgroup B'); Lang and Graham-Campbell 1976.

1:1,011 Silver fragment of the right-hand terminal plate of a bossed penannular brooch (MME: 1841,0711.454)

Brooch fragment of Graham-Campbell's (1975) 'subgroup C/D' (formerly Johansen's (1973) 'subgroup C'), consisting of the right-hand terminal, cut through the hindquarters of the pair of openwork marginal animals; it is almost complete, except that its boss is missing and outer angle cut off, and there is a deep cut across the front (**Cat. Fig. 21**; **Pl. 46**). The central area of the terminal is plain except for a double beaded border around the rivet-hole for the central boss. A complete example of such a brooch is known from Co. Roscommon (Johansen 1973, C2, fig. 52; Graham-Campbell 1975, 47, pl. vi,a).

Nicks: 8 (on the end edge, including a pair at either end). W 4.3; T 0.2cm. Wt 16.56g.

XRF-analysis: BMRL (File 5935), by Janet Lang (1991).
Ag: 97%; Cu: 1.8%; Pb: 0.7%; Au: 0.4%.

Hawkins 1847, 189–90, fig. 88; Smith 1914, 242, pl. xxviii,4; Bjørn and Shetelig 1940, 43–4 (x.1), fig. 10; Shetelig 1948, 74; Johansen 1973, 121, C3, fig. 53,c; Graham-Campbell 1987a, 339, fig. 10.

1:1,012 Silver fragment from a terminal plate of a bossed penannular brooch (MME: 1841,0711.464)

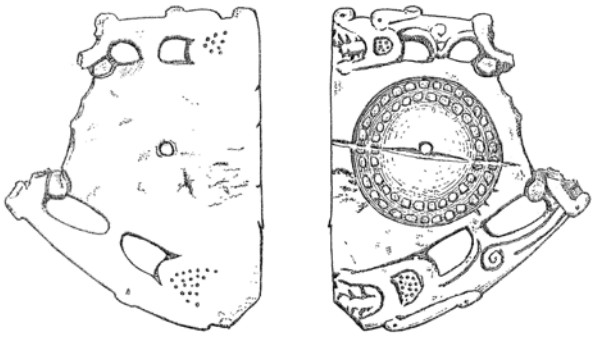
Brooch terminal fragment of Graham-Campbell's (1975) 'subgroup C/D', but much mutilated, being severed on four sides leaving only a small portion of the original circular outer edge of the terminal and part of the junction with the hoop; bent (**Pl. 46**). The front of the terminal was bordered by a row of small (outward pointing) punched triangles, within an incised line which also serves as the inner edge of a curved (cross-hatched) band across the junction, with a further pair of concentric lines forming a narrower plain band. The reverse is plain except for the inner and outer of these four concentric lines. Johansen (1973, 121, B5b) classified this fragment as being 'from the central area of a terminal' of a brooch belonging to his 'subgroup B', but it is brooches of his 'subgroup D' which have circular terminals (e.g. **3:2**, in the Goldsborough hoard).

Nicks: 1. L 1.5; T 0.15cm. Wt 2.01g.

Johansen 1973, 121, B5b, fig. 53,b; Graham-Campbell 1975, 47, 'miscellaneous' (*recte* 'subgroup C/D').

1:1,013 Silver fragment of the right-hand terminal plate of a bossed penannular brooch (AC: 152)

Severed on opposite sides from the terminal of a brooch belonging to Johansen's (1973) 'subgroup E', in the form of a circular plate, which has a rounded projection on its inner edge, with a central double-sided boss surrounded by two concentric rows of cast beading, within a plain border (**Pl. 47**). Both bosses are plain, although the upper is flanged; they are riveted through (**Cat. Fig. 22**). On the reverse, there is a billeted band forming the border, with a semi-circular line extending behind the projection. Where it is cut through at the junction with the hoop,



Cat. Figure 21 Terminal fragment of bossed penannular brooch (**1:1,011**): front and back

there are the remains of a second projection on the inner edge, which could represent the end of the open jaws of an animal head (cf. **1:1,020**), with the beginnings of a hatched field on the reverse.

Nicks: 9. D 2.0; T (plate) 0.2; H (bosses) 1.0cm. Wt 6.69g.

Graham-Campbell 1975, 35, 47, E4, pl. vii,c–d; 1976c, 47–8, fig. 7.

Cat. Figure 22 Bossed penannular brooch (**1:1,013**): section through terminal

1:1,014 Silver openwork zoomorphic fragment from the terminal plate of a bossed penannular brooch (MME: 1841,0711.455)

Small fragment severed (with six cuts) from a brooch terminal of Johansen's (1973) 'subgroup F' (cf. the Rathlin brooch, Co. Antrim: *ibid*., F1, fig. 58), in the form of a stylised animal in profile, executed in openwork (**Cat. Fig. 23**; **Pl. 46**). It has a ring-stamped eye (**Fig. 8.3,28**), an incised contour line and punch marks on its body; the reverse is plain.

Nicks: 2. L 1.4; T 0.15cm. Wt 0.71g.

Bjørn and Shetelig 1940, fig. 10; Graham-Campbell 1975, 40.

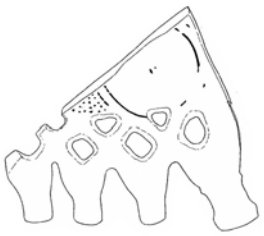
Cat. Figure 23 Openwork zoomorphic fragment (**1:1,014**), from a brooch terminal

1:1,015 Silver fragment of the outer angle of the right-hand terminal plate of a bossed penannular brooch (AC: 150)

Triangular fragment severed obliquely from the right-hand terminal of a brooch of Johansen's (1973) 'subgroup F', with the outer edge of the plate in the form of an openwork 'fringe' of moulded animal heads, seen from above (**Fig. 6.4**; **Pl. 47**). The four extant heads (of which the outermost is larger than the others) have ring-stamped eyes (**Fig. 8.3,29**) and are linked by diagonal bands, 'billeted' with a stamp consisting of a small pair of plain opposed (conjoined) triangles (**Fig. 8.2,63**). A diagonally hatched border (between plain edges), surrounds the central part of the terminal which is recessed for a decorative plate; this would have been held in place by 'stitches', with the remains of a pair surviving on the lower edge, towards the angle. On the reverse, the back of the animal heads and their linking bands have been left plain, whereas there is a centring-point for a pair of concentric circles in the outer corner of the terminal plate, the rest of which is filled with stippling (**Cat. Fig. 24**).

Nicks: 2. L 3.3; T (plate) 0.3; (largest head) 0.5cm. Wt 13.05g.

Hawkins 1847, 192, fig. 98; Bjørn and Shetelig 1940, 44 (x.5); Johansen 1973, 122, F3; Graham-Campbell 1975, 47; 1987a, 339, fig. 9.



Cat. Figure 24 Terminal fragment of bossed penannular brooch (**1:1,015**): reverse

(c) Other penannular brooch fragments (1:1,016–18)

1:1,016 Silver penannular brooch hoop (MME: 1841,0711.433)

Plain penannular brooch hoop with zoomorphic terminals and stamped ornament, with the hoop straightened and both ends bent inwards (**Fig. 6.6**; **Pl. 47**). The hoop is formed from a rod of circular section (D 0.6cm); the flattened terminals have a slightly modelled outer edge (to suggest an animal head) and rectangular ends (0.8 x 0.4cm). The open jaws are indicated, on both sides, by a row of (six or seven) impressions of an 'hour-glass' stamp, in the form of plain opposed (conjoined) lozenges (**Fig. 8.2,64**), between incised lines.

Nicks: 4. L 10.2cm. Wt 53.57g (drilled).

Hawkins 1847, 123, fig. 56; Bjørn and Shetelig 1940, 38 (i), fig. 9.

1:1,017 Silver 'rough-out' for a penannular brooch terminal and part hoop (MME: 1841,0711.434)

Plain triangular terminal of an unfinished penannular brooch, broken at one end through its rectangular sectioned hoop (0.9 x 0.35cm), which is bent back on itself; it is completed by **1:1,018**, with a reconstructed external diameter of *c*. 15cm (**Fig. 6.5**; **Pl. 46**). Roughly hammered, with cracking; originally with painted 'Duchy' weight '1048' (as also recorded in the British Museum Register).

Nicks: 2. W (terminal) 6.0; T 0.2cm. Wt 67.82g.

Hawkins 1847, 130, fig. 87; Bjørn and Shetelig 1940, 43 (v), fig. 11; Johansen 1973, 68, fig. 63; 1976, 53; Graham-Campbell 1975, 37, fig. 38; 1976c, 49.

1:1,018 Silver 'rough-out' for a penannular brooch terminal and part hoop (MME: 1841,0711.435)

Plain terminal fragment of an unfinished penannular brooch, as **1:1,017**, from which it was broken, with its hoop both bent back and under itself (**Pl. 46**).

Nicks: 2. W (terminal) 6.4; T 0.2cm. Wt 57.55g.

For references, see **1:1,017**.

(d) Pseudo-penannular brooch fragments (1:1,019–20)

1:1,019 Silver fragment from the left-hand hoop/terminal junction of a brooch (MME: 1841,0711.449)

Brooch fragment cut through its hoop of oval section (0.6 x 0.4cm), having a double plain moulding at the terminal junction (cf. the similar single moulding on the bossed penannular brooch (**3:2**) in the Goldsborough hoard). The remains of the terminal (**Pl. 46**) have been cut through twice, with the beginning of an open-jawed animal head (in profile) on both sides, with billeted bands emerging from a pair of bosses, that on the outer edge being the larger (and thus presumably representing the eye; cf. **1:1,020**). The identification of this fragment as deriving from a pseudo-penannular brooch is based on its close similarity to a complete example from Ireland (Johansen 1973, fig. 33), with discoidal terminals (cf. the terminal fragment (**3:4**) in the Goldsborough hoard, with which it could be fitted).

Nicks: 4. L 2.4; T (plate) 0.2cm. Wt 6.49g.

Johansen 1973, 115, fig. 34,a (lower).

1:1,020 Silver fragment consisting of the right-hand terminal and part hoop of a pseudo-penannular brooch (AC: 151)

Brooch fragment cut (with two blows) through its hoop of oval section (0.7 x 0.5cm), and through the linking bar which extends from its circular terminal (**Fig. 6.6**; **Pl. 47**). The front of the terminal is plain, with a recessed field (with centring-point) for a decorative plate which would have been held in place by five 'stitches', equally spaced around the top of its inner edge. The junction between hoop and terminal is in the form of an open-jawed animal head (in profile), with a boss on the outer edge representing the eye, with lesser bumps marking both ends of the jaws and the beginning of the lower; the jaws themselves have hatched triangular fields. The reverse of the terminal is decorated with four concentric lines (with centring-point) and a partial faint fifth; there is a similar, but simplified, animal head in the same position as that on the front (with only one small bump, for the eye).

Nicks: 5. L 6.0; D (terminal) 1.8; T 0.5cm. Wt 33.32g.

Hawkins 1847, 191, fig. 97; Bjørn and Shetelig 1940, 44 (x.4).

(e) Pin-heads and brooch-pin fragments (1:1,021–33)

1:1,021 Silver brooch pin-head fragment (MME: 1841,0711.284)

Pin-head fragment, flattened and cut across at both ends; there are three longitudinal grooves, with the remains of three perforations, for holding twisted wires (**Pl. 46**).

Nicks: 3. W 2.1; T 0.2cm. Wt 7.15g.

1:1,022 Silver brooch pin-head fragment (MME: 1841,0711.458)

Pin-head fragment, roughly finished, but seemingly broken across the top and cut through the shaft, which is of oval section (0.6 x 0.4cm); there is a central rivet-hole for a boss which has been cut away (**Pl. 46**). Heavily nicked for its size.

Nicks: 17 (9 + 8, on opposite sides). W 1.3; T 0.15cm. Wt 3.57g.

Bjørn and Shetelig 1940, fig. 10.

1:1,023 Silver brooch pin-head(?) fragment (MME: 1841,0711.468)

Pin-head(?) fragment, cut across at both ends, tapering from a flat rectangular section (0.85 x 0.2cm) to what is most probably a pin-shaft of oval section (0.5 x 0.3cm); the front surface, which is damaged, displays the remains of five converging incised lines (**Pl. 46**).

Nicks: 5. L 1.2cm. Wt 1.64g.

1:1,024 Silver brooch pin-head fragment (MME: 1841,0711.484)

Pin-head fragment, cut across at both ends, with a slight curvature and tapering (2.0–1.8cm); hammered to create a raised plain border along both sides (T 0.2cm), but it could be unfinished (**Pl. 46**).

Nicks: 1 (sliced angle). L 1.6; T 0.1cm. Wt 2.92g.

1:1,025 Silver brooch pin-head fragment (MME: 1841,0711.505)

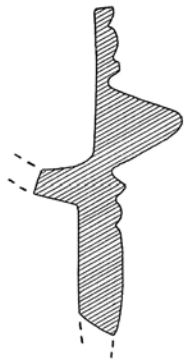
Pin-head fragment, cut at both ends and bent into a U-shape; there is a neatly incised narrow groove down the centre, with a broad groove to either side (left roughly finished), presumably for holding twisted wires (**Pl. 46**).

Nicks: 0. W 1.15; T 0.15cm. Wt 2.19g.

1:1,026 Silver brooch pin-head fragment (AC: 153)

Pin-head fragment, cast in a single piece, rectangular with a central conical boss, and an attachment loop on the reverse (**Cat. Fig. 25**); it has been cut through the pin-shaft (D 0.6cm) and the loop, with both the upper angles also cut away (**Pl. 47**). There is a plain edge-moulding and a plain circular field around the boss, between which is an arrangement of pellets and perforations creating an openwork pattern. An oval pellet projects inwards from each angle, with a row of alternating circular pellets and perforations between them, except for the lower edge, which has three pellets between single perforations.

Nicks: 8. L 4.4; W 2.9; T 0.3cm (with boss: 1.2cm). Wt 27.69g.



Cat. Figure 25 Bossed penannular brooch fragment (**1:1,026**): pin-head section

1:1,027 Silver brooch pin-head fragment (AM: 1909.551a)

Plain pin-head fragment, cut at one end (from both sides) through a tapering shaft of sub-rectangular section (min. 0.5 x 0.3cm) and sheared across its flat expanded head (**Pl. 47**).

Nicks: 1. L 1.9; W 1.2cm. Wt 2.80g.

Evans collection; Thompson 1956, pl. xii,a.

1:1,028 Silver brooch-pin(?) fragment (MME: 1841,0711.592)

Fragment of a (probable) pin-shaft of circular section (D 0.45cm), cut at one end; the other, which is broken, has been hammered flat (0.5 x 0.3cm), but is also curved, as if to form a plain pin-head (**Pl. 47**).

Nicks: 0. L 3.0cm. Wt 4.6g.

1:1,029 Silver brooch-pin fragment (MME: 1841,0711.688)

Cut upper end of a pin-shaft in the form of a rod of circular section (D 0.5cm), broken at the lower end which is rectangular (0.5 x 0.3cm); two lightly incised elements form a diagonal step-pattern on its front (**Pl. 48**).

Nicks: 5. L 7.8cm. Wt 14.91g.

1:1,030 Silver brooch-pin terminal fragment (MME: 1841,0711. 696,l)

Terminal fragment of a pin of sub-rectangular section (0.3 x 0.3cm), tapering to a rounded end (**Pl. 48**).

Nicks: 1. L 1.3cm. Wt 0.8g.

1:1,031 Silver brooch-pin fragment (MME: 1841,0711.696,m)

Pin fragment of ovoid section, slightly tapered (0.3 x 0.2–0.2 x 0.2cm); cut at both ends (**Pl. 48**).

Nicks: 0. L 2.1cm. Wt 0.98g.

1:1,032 Silver brooch-pin(?) fragment (MME: 1841,0711.713)

Probable pin fragment of rectangular section, broken at both ends, but slightly tapering to one (0.5–0.4 x 0.2cm); there is an incised diagonal step-pattern on the front, between a pair of contour lines (**Pl. 48**). The step-pattern (and general form) suggests that this fragment formed part of a pin-shaft (cf. **1:1,029**), but it might have been cut from an arm-ring (cf. the plain arm-ring fragment, of similar section, **1:574**). Heavily nicked for its size.

Nicks: 10 (5 on both sides). L 2.15cm. Wt 1.99g.

Hawkins 1847, 119, fig. 42; Bjørn and Shetelig 1940, 36 (c.30).

1:1,033 Silver brooch-pin terminal fragment (MME: 1841,0711.715)

Terminal fragment of a pin of rectangular section, cut at its upper end (0.6 x 0.3cm), tapering through a lozenge section to the tip which has been bent back on itself to form a closed loop; plain on both sides (**Pl. 48**).

Nicks: 4. L 7.2cm. Wt 15.8g.

(f) Bosses and rivet (detached) (1:1,034–7)

1:1,034 Silver boss (MME: 1841,0711.451)

Solid plain boss of hemispherical form, with an integral rivet (**Pl. 46**); a deep double cut across the base of the rivet suggests that it has been cut away from a brooch.

Nicks: 2. D 1.0; H 1.0cm. Wt 4.04g.

Johansen 1973, 120, A17b, fig. 48,c (although mistakenly supposed to be 'identical with that of A17a' (**1:1,002**), but the latter is hollow); Graham-Campbell 1975, 47, 'miscellaneous'.

1:1,035 Silver boss (MME: 1841,0711.452)

Solid plain boss of sub-conical (flat-topped) form, with an integral rivet, displaying no evidence of use (**Pl. 46**).

Nicks: 2. D 0.7; H 0.6cm. Wt 1.58g.

1:1,036 Silver boss (MME: 1841,0711.453)

Solid plain boss of hemispherical form, with an integral rivet, the end of which has a slightly raised edge so that it cannot have been hammered. It is thus presumably unused (**Pl. 46**), although the absence of nicking could well be due to its small size.

Nicks: 0. D 0.55; H 0.7cm. Wt 0.86g.

1:1,037 Silver rivet for a hollow boss (MME: 1841,0711.741)

Plain rod, with flattened ends from use as a rivet; slightly bent (**Pl. 46**).

Nicks: 2. L 1.0; D (rod) 0.15 (ends) 0.2cm. Wt 0.1g.

(g) Hoop and terminal fragments (1:1,038–52)

1:1,038 Silver brooch hoop fragment (MME: 1841,0711.696,f)

Plain hoop fragment of D-shaped section, severed at both ends, one of which is slightly expanded (flattened on top: 0.7 x 0.3cm), suggesting that this may be the junction between the hoop and left-hand terminal of the brooch (**Pl. 48**). Heavily nicked for its size.

Nicks: 13. L 1.6; W 0.6; T 0.35cm. Wt 2.34g.

1:1,039 Silver brooch hoop fragment (MME: 1841,0711.696,g)

Plain hoop fragment of D-shaped section, severed at both ends (**Pl. 48**).

Nicks: 8 (4 on both sides) L 4.5; W 0.6; T 0.3cm. Wt 5.72g.

1:1,040 Silver brooch hoop fragment (MME: 1841,0711.696,h)

Plain hoop fragment of D-shaped section, severed at both ends (**Pl. 48**). Heavily nicked for its size.

Nicks: 15 (1 deep across upper face; 7 on both sides). L 2.0; W 0.8; T 0.35cm. Wt 3.69g.

1:1,041 Silver brooch hoop fragment (MME: 1841,0711.696,i)

Plain hoop fragment of sub-triangular section, severed at both ends, bent up at one (**Pl. 48**).

Nicks: 5 (1 across upper face; 2 on both sides). L 1.8; W 1.1; T 0.3cm. Wt 3.99g.

1:1,042 Silver brooch hoop fragment (MME: 1841,0711.696,j)

Plain hoop fragment of D-shaped section, severed at both ends (**Pl. 48**).

Nicks: 2. L 1.8; W 0.7; T 0.4cm. Wt 3.7g.

1:1,043 Silver brooch hoop fragment (MME: 1841,0711.696,k)

Hoop fragment of D-shaped section, severed at both ends (bent), with two contour lines lightly incised on both its curved upper face and flat reverse (**Pl. 48**).

Nicks: 4. L 1.5; W 0.9; T 0.3cm. Wt 3.03g.

1:1,044 Silver brooch hoop fragment (MME: 1841,0711.697,a)

Plain hoop fragment of ovoid section, severed at both ends (**Pl. 48**).

Nicks: 8 (4 on both sides). L 2.3; W 0.7; T 0.4cm. Wt 5.03g.

1:1,045 Silver brooch hoop fragment (MME: 1841,0711.697,b)

Plain hoop fragment of ovoid section, severed at both ends (**Pl. 48**). Heavily nicked for its size.

Nicks: 17. L 1.6; W 0.7; T 0.5cm. Wt 3.76g.

1:1,046 Silver brooch hoop fragment (MME: 1841,0711.707)

Hoop fragment of flat D-shaped section, cut and broken at both ends (**Pl. 48**); with two pairs of lightly incised contour lines on the flat reverse (as also **1:1,047–9**; cf. **1,043**). In battered condition.

Nicks: 5 (3 on outer angle; 2 on inner). L 3.7; W 1.1; T 0.2cm. Wt 7.41g.

1:1,047 Silver brooch hoop fragment (MME: 1841,0711.708)

Hoop fragment of D-shaped section, cleanly cut at both ends, one of which is bent back on itself (**Pl. 48**); with two contour lines lightly incised on the flat reverse.

Nicks: 7 (6 on outer angle; 1 on inner). L 4.4 (bent); W 0.85; T 0.45cm. Wt 22.67g.

1:1,048 Silver brooch hoop fragment (MME: 1841,0711.709)

Hoop fragment of D-shaped section, cleanly cut at both ends, one of which is bent (**Pl. 48**); with two pairs of lightly incised contour lines on the flat reverse. Heavily nicked.

Nicks: 15 (8 on outer angle; 7 on inner). L 3.0 (bent); W 0.85; T 0.35cm. Wt 7.20g.

1:1,049 Silver brooch hoop fragment (MME: 1841,0711.710)

Hoop fragment of D-shaped section, cut and broken at both ends (**Pl. 48**); with two lightly incised contour lines on the flat reverse.

Nicks: 1 (outer). L 2.6; W 0.7; T 0.3cm. Wt 4.6g.

1:1,050 Silver fragment from a terminal plate(?) of a brooch (MME: 1841,0711.443)

Flat triangular fragment, severed on all sides (one with two blows), possibly from a brooch terminal, with incised ornament (**Pl. 46**); there are two transverse cuts across the reverse. The surviving decoration consists of a curving tapered band, filled with diagonal hatching, with two outer lines forming plain borders.

Nicks: 0. L 1.2; T 0.3cm. Wt 0.94g.

1:1,051 Silver fragment from a terminal plate(?) of a brooch (MME: 1841,0711.448)

Flat sub-rectangular fragment, cut on three sides, possibly from a brooch terminal, with one straight original edge and incised ornament on one side, consisting of a lightly incised pair of curving lines; the other is plain (**Pl. 46**).

Nicks: 0. L 0.9; T 0.3cm. Wt 0.7g.

1:1,052 Silver fragment from a terminal plate(?) of a brooch (MME: 1841,0711.466)

Flat sub-triangular fragment, cut on three sides, probably from a brooch terminal (one being through its hoop?); its one original edge is curved and has a row of 'hour-glass' stamping around it on one side (**Pl. 46**; cf. **1:1,012**); the other is plain. The 'hour-glass' stamp consists of plain opposed (conjoined) triangles (**Fig. 8.2,65**). It is, however, possible that the cut hoop(?) is instead the remains of a linking-bar from between the discoidal terminals of a pseudo-penannular brooch

Nicks: 3. L 1.1; T 0.3cm. Wt 1.92g.

Group 2: Scandinavian/ Baltic brooch tradition (1:1,053)

Knobbed penannular brooch fragment

1:1,053 Silver brooch-hoop fragment (AC: 141)

Severed at both ends from a knobbed brooch-hoop of octagonal section (0.7–0.8cm), with stamped ornament; straightened (**Pl. 48**). The facetted rectangular knob has a large ring-stamp (**Fig. 8.3,30**) on each main lozenge-shaped face, with all its angles stamped across with a plain opposed (unlinked) triangle stamp (**Fig. 8.2,82**), except on one face, which is plain apart from the ring-stamp. The hoop is likewise stamped in rows across all its angles, with an opposed (linked) triangle stamp, both containing a single pellet (**Fig. 8.2,95**). Very heavily nicked for its size (including on its cut edges), although both its battered condition and the extent of its stamped ornament make it impossible to quantify accurately.

Nicks: *c.* 26. L 2.7cm. Wt 12.68g.

Group 3: Anglo-Saxon brooch tradition (1:1,054–5)

Disc brooch fragments

1:1,054 Six adjoining fragments of beaded silver wires (MME: 1841,0711.738; AC: 140,a–e)

Six fragments of coarsely beaded wire, together forming an almost complete circular mount, consisting of seven concentric rings (W 1.5cm), for a missing central setting (D 2.5cm); the five largest pieces form part of the Assheton Collection (a-e), with that in the British Museum (f) consisting only of four beads, which will have formed part of one of the two (incomplete) innermost rings (**Pl. 48**). The rings were soldered together and strengthened on the reverse with two narrow transverse bands, opposite each other; the pin-attachments are missing. No apparent nicking.

Nicks: 0. D 5.5; T 0.24cm. Wts (a) 10.45; (b) 5.79; (c) 3.72; (d) 1.38; (e) 1.17; (f) 0.3g. Total Wt: 22.54g.

Hawkins 1847, 128, fig. 76; Bjørn and Shetelig 1940, 42 (s.4).

1:1,055 Silver brooch pin (MME: 1841,0711.684)

Plain brooch pin, bent back on itself to form a loop; the tapered pin-shaft is of circular section (max. D 0.3cm), with a slightly flattened, looped, pin-head (**Fig. 6.8**; **Pl. 48**). In good condition (with no signs of wear), having four tiny nicks.

Nicks: 4 (inc. one pair). L 3.7 (original) *c.* 6.2; W (pin-head) 0.4cm. Wt 2.79g.

Hawkins 1847, 130, fig. 86; Bjørn and Shetelig 1940, 43 (u), fig. 12.

Group 4: Frankish brooch tradition (1:1,056–7)

Equal-armed brooch fragments, with filigree decoration

1:1,056 Silver filigree-decorated brooch fragment (MME: 1841,0711.473)

Irregular fragment of sheet (T 0.34cm), with one original side-edge; the remains of the ornament consist of a row of three collared granules, each surrounded with a pair of plain twisted wires which are continued across the brooch so as to divide it vertically (**Fig. 7.5**; **Pl. 48**); the reverse is plain. The wires from around the left-hand and central granules turn towards each other and thus form a single division on which is seated a further pair of twisted wires; in the field below the central granule are the remains of a twisted wire collar for a further granule (from a transverse row). Cf. **1:1,057**, which derives from a more substantial brooch of the same equal-armed type.

Nicks: 3 (in one group). L 1.2cm. Wt 1.02g.

1:1,057 Silver filigree-decorated brooch fragment (AC: 143)

Parallel-sided fragment, with flanged base-plate being broken at both ends; the filigree decoration is formed from a combination of beaded and plain wires, with granules (**Fig. 6.9**; **Cat. Fig. 26**; **Pl. 48**); the reverse is plain. Cf. **1:1,056**.

Nicks: 1. L 2.7; W 2.08cm. Wt 10.62g.

Hawkins 1847, 191, fig. 95; *BM Anglo-Saxon Guide* (1923), fig. 132,4; Bjørn and Shetelig 1940, 44 (z.1).

Cat. Figure 26 Equal-armed brooch fragment, with filigree decoration (**1:1,057**), profile and section (cf. **Figs 6.9** and **7.5**)

Trefoil-headed pin fragments (1:1,058–61)

1:1,058 Silver rod fragment (MME: 1841,0711.676)

Plain fragment of rod (D 0.45cm), tapering to one end (D 0.26cm) where it is broken, after one and a half loops (of a trefoil-headed pin); the other end has been hammered into a

rectangular section (0.5 x 0.3cm) and cut through (**Pl. 49**). Heavily nicked.
Nicks: 22. L 5.5cm. Wt 15.65g.

1:1,059 Silver rod fragment (MME: 1841,0711.677)
Plain fragment of rod (D 0.4cm), becoming rectangular in section, bent into a loop (cf. **1:1,058**); it has been cut through at both ends and heavily nicked (**Fig. 4.5**; **Pl. 49**).
Nicks: 24. L 5.5cm. Wt 14.35g.

1:1,060 Silver rod fragment (AC: 72)
Plain fragment of rod (D 0.4cm), tapering to one end (D 0.2cm) where it is cut through what was probably the third loop of a trefoil-headed pin; the shaft has been bent upwards to form a loop and cut off (**Pl. 49**). Alternatively, the pin-head might have consisted of just the two loops, with its cut end twisted around the shaft.
Nicks: 3. L 5.4cm. Wt 13.49g.

1:1,061 Silver rod fragment (AC: 128)
Plain fragment of rod (D 0.4cm), cut at both ends, bent into a loop which appears to be original; it has been cut at both ends, tapering to one (D 0.3cm), which is bent back (to form a second loop) at the point where it has been cut through (**Pl. 49**).
Nicks and slices: 6. L 2.7cm. Wt 5.14g.

Buckle (1:1,062)

1:1,062 Silver buckle, formed from a penannular arm-ring and a 'thistle-brooch' pin-fragment (MME: 1841,0711.436)
Penannular arm-ring of octagonal section, with stamped decoration, combined with part of the pin from a 'thistle-brooch' to form a large buckle (**Fig. 6.1**; **Pl. 49**). In section, the massive ring is lozenge-shaped with flattened angles (1.3 x 1.3cm), tapering to flat ends (0.7 x 0.7cm). The upper, lower and outer angles are each stamped across with a plain opposed (unlinked) triangular punch (**Fig. 8.2,83**), forming three rows, but the terminals are left plain. The pin-head and shaft were cast as one; the reverse of the 'thistle-brooch' pin-head has been part cut away, so that it might be fitted onto the ring, before being slightly hammered front and back to close it up, flattening it into an ovoid form. Before this treatment, the plain reverse had been fully rounded (cf. **1:996–7** and **1,001**). The area of flat-topped brambling on the obverse is consequently somewhat defaced (with two parallel cuts across that), but it was executed by means of a combination of diagonal cross-filing and ring-stamping (**Fig. 8.3,31**). The actual pin-top is plain, apart from a centring-point, although there is an incised line around its outer edge and a plain collar at the junction; the narrow side-collars are defined by an incised line. The shaft itself is of sub-rectangular section tapering to oval (min. 0.5 x 0.4cm), where it was cut down in length so as to rest upon the ring, where its surface is slightly concave and it has two deep cuts.
Nicks: 6 (arm-ring: 2; pin: 4). D (arm-ring) 9.8; L (pin) 7.9cm. Wt 225.3g (both drilled).

Hawkins 1847, 125–6, fig. 62; Bjørn and Shetelig 1940, 40 (n and 0.1), fig. 11.

Beads & Suspension/ Attachment Rings (1:1,063–82)

1. Bead and fragments (1:1,063–7)

1:1,063 Silver spiral bead (MME: 1841,0711.740)
Spiral bead formed from nine coils of a plain rod (D 0.1cm) which has been flattened, thus partly obscuring the extent of its nicking (**Fig. 6.13**; **Pl. 50**).
Nicks: 4. L 2.7cm. Wt 2.0g.

Hawkins 1847, 128, fig. 77; Bjørn and Shetelig 1940, 42 (s.5), fig. 12.

1:1,064 Terminal fragment of a silver spiral bead (MME: 1841,0711.702)
Spiral bead fragment, formed from a plain square-sectioned rod (0.14 x 0.14cm), but broken at one end (**Pl. 50**); one and a half coils of the rod remain, tapering to its terminal (0.09cm).
Nicks: 0. D 0.55cm. Wt. 0.26g.

1:1,065 Terminal fragment of a silver spiral bead (AC: 135)
Spiral bead fragment, formed from a beaded rod (D 0.1cm) of D-shaped section, with a facetted upper face (to create the beaded appearance), cut at one end; seven coils remain (stretched out of shape), with a plain flat terminal (**Pl. 50**).
Nicks: 0. L 2.55cm. Wt 0.92g.

1:1,066 Fragment of a silver spiral bead (AM: 1909.550)
Spiral bead fragment, formed from a plain rod (D 0.1cm), cut at both ends; seven coils remain, slightly tapering to one end, which is bent back on itself (**Pl. 50**).
Nicks: 0. L 1.4cm. Wt 1.87g.

Evans collection; Thompson 1956, pl. xii,a.

1:1,067 Fragment of a silver filigree-ornamented bead (AC: 144)
Bead fragment, consisting of the crushed central part, with both ends broken/cut away (**Pl. 50**). The bead was originally globular and decorated with concentric bands of collared (flat-topped) granules, separated by borders of twisted wires. The prominent central band is intact with a row of twelve granules, each on a collar of twisted wires; these granules are larger than those on the remains of the two further bands that survive, in part, to either side (although one of the two innermost bands is complete, with eight granules).
Nicks: 0. D 1.8cm. Wt 2.56g.

2. Suspension/attachment rings (1:1,068–82)

1:1,068–9 Pair of silver rings (MME: 1841,0711.718 and 719)
Two rings of similar size, forming a pair, made from partly twisted single rods (D 0.2cm), which have an incised spiral line to give a beaded effect, although somewhat flattened and distorted; their plain ends would have been closed with a twist, but only one is intact (**Pl. 50**)
Nicks (**1:1,068**): 2. D 3.3 x 2.7cm. Wt 2.47g.
Nicks (**1:1,069**): 2. D 2.8 x 2.7cm. Wt 2.55g.

1:1,070–1 Two ovoid silver rings (MME: 1841,0711.720,a and b)
Two ovoid rings of similar size, forming a near pair (**1:1,070** being the better finished, but more worn, of the two, whereas **1:1,071** has the slight twist of **1:1,068–9**), made from milled rods (D 0.14cm) tapering to plain ends (D 0.08cm) which would have been twisted together (**Fig. 6.13**; **Pl. 50**).
Nicks (**1:1,070**): 1. D 1.7cm. Wt 0.72g.
Nicks (**1:1,071**): 0. D 1.9cm. Wt 0.78g.

Hawkins 1847, 127, fig. 71; Bjørn and Shetelig 1940, 40 (r.5), fig. 12.

1:1,072 Silver ring fragment (MME: 1841,0711.722)
Two drawn wires (D 0.06cm) twisted together to form a ring; cut at both ends (**Pl. 50**).
Nicks: 0. D 1.5cm. Wt 0.31g.

Whitfield 1990, 25.

1:1,073 Annular silver ring (MME: 1841,0711.725)
Missing: two plain wires twisted together to form a small ring; as depicted in the British Museum Register, it is similar to **1:1,074**, although slightly larger (**Pl. 53**).
D 0.45" (1.14cm). Wt ?

1:1,074 Annular silver ring (MME: 1841,0711.726)
Two plain wires (D 0.08–0.09cm) twisted together to form a small ring, closed by overlapping ends (**Pl. 50**).
Nicks: 0. D 0.85cm. Wt 0.27g.

Hawkins 1847, 127, fig. 72.

1:1,075 Silver ring fragment (MME: 1841,0711.727)
Approximately half a ring, formed from two plain wires (D 0.05cm) twisted together (**Pl. 50**).
Nicks: 0. D *c.* 1.5cm. Wt 0.16g.

1:1,076 U-shaped fragment of silver beaded rod (MME: 1841,0711.731)
Small U-shaped loop of transversely hatched rod (D 0.14cm), with a crudely beaded appearance (cf. **1:1,070–1**), although much worn; the ends are cleanly cut (**Pl. 50**).
Nicks: 0. L 0.6cm. Wt 0.17g.

1:1,077 U-shaped fragment of silver rod (MME: 1841,0711.733)
U-shaped loop of rod (D 0.15cm), with stamped ornament; broken at both ends, and slightly twisted (**Pl. 50**). It is decorated with a row of plain opposed (unlinked) triangles (**Fig. 8.2,84**).
Nicks: 3. D 2.6cm. Wt 0.86g.

1:1,078 Silver ring fragment, of plain wire (MME: 1841,0711.739)
Fragment of plain wire in the form of a ring, cut at both ends, but with one curved

indicating that they would have been twisted together (**Pl. 50**). The ring has a slight twist to it suggesting that it is the unwound part of a two-strand twisted ring, as **1:1,072** and **1,075**.
Nicks: 0. D 1.6cm. Wt 0.2g

1:1,079 U-shaped fragment of silver rod (MME: 1841,0711.697,d)
Fragment of plain rod (1.0cm); cut at both ends (**Pl. 50**).
Nicks: 1. L 1.4cm. Wt 0.32g.

1:1,080 Annular ring of silver beaded wire (AC: 112)
Ovoid ring (somewhat misshapen), of beaded wire (D 0.15cm), with plain ends closed in a simple twist (**Pl. 50**); the beaded/milled surface of the wire is part flattened (cf. **1:1,070–1** and **1:1,087**).
Nicks: 0. D 2.1cm. Wt 1.05g.

1:1,081 Annular silver ring (AC: 114)
Small ring of plain rod (D 0.1cm), with fully closed ends (**Pl. 50**), but otherwise similar to that on the end of **1:1,086**.
Nicks: 0. D 1.2cm. Wt 0.28g.

1:1,082 U-shaped fragment of twisted silver wires (AC: 134)
A pair of plain fine wires (D 0.08cm), twisted together; bent into a U-shaped loop which is cut at both ends (**Pl. 50**).
Nicks: 0. L 1.6cm. Wt 0.26g.

Chains & Wires (1:1,083–99)

1. Chain fragments (1:1,083–9)

1:1,083 Silver chain loop (MME: 1841,0711.696,kk)
Loop from a chain, in the form of a bent ring (**Pl. 50**), formed from a plain rod of circular section (D 0.1cm).
Nicks: 0. L 1.0cm. Wt 0.22g.

1:1,084 Silver chain fragment (MME: 1841,0711.724)
Chain fragment consisting of three rings formed from crudely beaded wire (D 0.08cm), with twisted ends, bent back into figure-of-eight shaped loops before being linked together; the loop at one end is distorted and incomplete (**Fig. 6.15,2**; **Pl. 50**).
Nicks: 0. L *c.* 2.4cm. Wt 0.70g.

1:1,085 Silver chain fragment (MME: 1841,0711.729)
Part of a divided suspension-chain consisting of five complete loops of drawn wire (D 0.05cm); the chain was constructed by lengths of doubled wire being linked together (2 + 2 + 1), with the ends wound around their centres to form figure-of-eight shaped loops (**Fig. 6.15,1**; **Pl. 50**).
Nicks: 0. L (single loop) 2.0cm. Wt 1.09g.

Hawkins 1847, 129, fig. 82; Bjørn and Shetelig 1940, 42 (s.10), fig. 12; Whitfield 1990, 24–5, fig. 15.

1:1,086 Silver Trichinopoly-work chain fragment (AC: 108)
Chain fragment of knitted wires, ending in a plain terminal mount with an attachment ring; the other end is broken (**Fig. 6.14**; **Pl. 51**). The tubular chain is knitted from drawn wire (D 0.03cm), in the Trichinopoly technique (cf. **1:1,089**); its terminal mount is in the form of a plain U-shaped sheet, originally secured with two rivets, one of which is missing; this sheet, which has an irregular outline, has seemingly been reused, having a third perforation on one side only. The attachment ring is formed from a plain rod (D 0.1cm), closed with twice twisted ends.
Nicks: 1 (on ring). L (chain) 26.0; D (ring) 1.6cm. Wt 26.37g.

Hawkins 1847, 129, fig. 84; Bjørn and Shetelig 1940, 42–3 (s.12); Whitfield 1990, 25.

1:1,087 Silver chain fragment (AC: 137)
Chain fragment, consisting of individual rings formed from milled rods (D 0.15cm), with their ends closed in a twist which is concealed within the chain; each ring (similar to **1:1,080**) is bent into a figure-of-eight and passed through two others (**Pl. 51**). These linked rings form a highly flexible chain which displays considerable wear.
Nicks: 3. L 8.0; W 0.8cm. Wt 14.61g.

Hawkins 1847, 128–9, fig. 80; Bjørn and Shetelig 1940, 42 (s.8).

1:1,088 Silver chain fragment (AC: 138)
Chain fragment, tubular in its square section, woven from four drawn wires (D 0.05cm), as can be seen in its SEM photo (**Fig. 6.15,3**; **Pl. 51**).
Nicks: 0. L 1.0; W 0.4cm. Wt 0.41g.

Hawkins 1847, 129, fig. 81; Bjørn and Shetelig 1940, 42 (s.11); both with descriptions reversed for Hawkins, fig. 83 (**1:1,089**).

1:1,089 Silver Trichinopoly-work chain fragment (AC: 139)
Chain fragment of knitted wires (D 0.03cm), in the Trichinopoly technique (cf. **1:1086**, but of slighter construction); it is broken at both ends (**Pl. 51**).
Nicks: 0. L 3.9cm. Wt 0.41g.

Hawkins 1847, 129, fig. 83; Bjørn and Shetelig 1940, 42 (s.9); both with descriptions reversed for Hawkins, fig. 81 (**1:1,088**).

2. Wires (1:1,090–9)

1:1,090 Knot of silver wire (MME: 1841,0711.730)
Small knot, woven from six drawn wires (D 0.03cm), grouped together in parallel; too fine to be nicked (**Fig. 6.13**; **Pl. 51**).
Nicks: 0. L 0.7 x 0.5 x 0.2cm. Wt 0.22g.

Hawkins 1847, 128, fig. 78; Bjørn and Shetelig 1940, 42 (s.6); Whitfield 1990, 25.

1:1,091 Hank of silver wire (AM: 1909.551c)
Hank of plain wire (D 0.02cm); flattened, but too fine to be nicked (**Pl. 51**).
Nicks: 0. L 2.0cm. Wt 0.5g.

Evans collection; Thompson 1956, pl. xii,a.

1:1,092–9 Eight fragments of silver wire (MME: 1841,0711.698)
Cut/broken and bent pieces of plain wire (D 0.16–0.1cm), with some nicking (**Pl. 51**).
Nicks: ? L 2.1–0.7cm. Wt 0.33; 0.22; 0.16; 0.15; 0.14, 0.13; 0.11; 0.07g. Wt (total) 1.31g.

Filigree and Beaded/Twisted Wire Fragments (1:1,100–13)

1:1,100 Silver filigree-decorated fragment (MME: 1841,0711.470)
Sub-triangular fragment of thin sheet, with rounded terminal; one side is straight, but the other expands towards the cut end (**Pl. 51**). Much of it remains edged with a beaded wire and a further row of beaded wire, forming a circle around a central rivet-hole, will have formed the collar for a missing boss (D *c.* 0.7cm). The adjacent field contains five (originally six) small granules with beaded collars; the central one is now missing, although sketched in place in the BM Register (but it is also absent from fig. 10 in Bjørn and Shetelig 1940). The reverse is plain and it may be suggested that this fragment formed part of the decorative mount from the left-hand terminal of a bossed penannular brooch of Johansen's (1973) 'subgroup F', such as that from the Hatteberg hoard, Norway (**Fig. 6.4**).
Nicks: 1. L 1.4cm. Wt 0.79g.

Hawkins 1847, 191, fig. 96; Bjørn and Shetelig 1940, 44 (z.2), fig. 10.

1:1,101 Silver filigree-decorated fragment (MME: 1841,0711.471)
Irregular fragment of thin sheet (T 0.07cm), cut on all sides, with the remains of a loop of beaded wire soldered to the front, together with a collared granule, now flattened (**Pl. 51**). This upper surface had first been gilded (see below); the reverse is plain.
Nicks: 2. L 1.4cm. Wt 0.56g.

XRF-analysis (in SEM), by Janet Lang (BMRL: File 5935), established that this 'fragment was mercury gilded and a low melting point lead-rich solder was used to fix the silver decoration, made in fine silver, onto the gilded surface'.

1:1,102 Silver filigree-decorated fragment (MME: 1841,0711.472)
Small fragment of thin sheet (T 0.07cm), with one original (nicked) side; soldered to the front is a C-shaped scroll of flattened beaded wire (serrated band), enclosing a granule, with a second granule outside, adjacent to a plain clasping band (**Pl. 51**). The reverse is plain.
Nicks: 2. L 1.0cm. Wt 0.51g.

1:1,103 Silver filigree-decorated fragment (MME: 1841,0711.474)
Missing: small fragment of sheet, decorated with the remains of a scroll of beaded wire, enclosing a granule; reproduced from the British Museum Register (**Pl. 53**).

Nicks ? L 0.35"; W 0.25" (0.9 x 0.6cm). Wt (converted) 0.45g.

1:1,104 Silver filigree-decorated fragment (MME: 1841,0711.475)

Sub-triangular fragment of thin sheet (T 0.08cm), with only one original (nicked) side, which would seem to have been edged with a wire; this appears to have a slight curvature (**Pl. 51**). The remains of the ornament on the front – a spiral of beaded wire enclosing a granule – are flattened and worn; the reverse is plain.

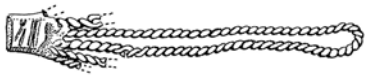
Nicks: 1. L 0.85cm. Wt 0.32g.

1:1,105 Silver fragment, with twisted wires (MME: 1841,0711.728)

A much damaged fragment of an unidentified ornament (?ring) which would originally have had six parallel rows of twisted pairs of drawn wire (D 0.06cm); there were possibly three such pairs, forming loops, but with only the central loop remaining intact. This is bent back on itself, but the twisted wires remaining on one side are clearly laid in herringbone fashion, as doubtless they were on both. These twisted wires merge into a plain end/terminal of rectangular section (tapering to 0.45 x 0.2cm); this has been cut through, with parallel cut marks, so that its original form is unknown (**Cat. Fig. 27**; **Pl. 51**).

Nicks: 1. L 4.6cm. Wt 1.10g.

Hawkins 1847, 128, fig. 79; Bjørn and Shetelig 1940, 42 (s.7), fig. 12; Whitfield 1990, 25.



Cat. Figure 27 Fragment with twisted wires (**1:1,105**)

1:1,106 Silver filigree-decorated fragment (MME: 1841,0711.732)

Fragment of an unidentified ornament consisting of a plain sub-rectangular rod (0.35 x 0.19cm), tapering to one cut end, the other being flattened into a rounded plate (T 0.1cm) which has been broken off; both faces of the terminal plate have the remains of beaded wires forming a border, with part of a double row surviving on one, but only one on the other (**Pl. 51**). Heavily nicked for its small size.

Nicks: 10. L 1.4cm. Wt. 0.86g.

1:1,107 Semi-circular piece of silver beaded rod (MME: 1841,0711.734)

This semi-circular piece of neatly beaded rod (D 0.15cm) appears to be intact at both ends, although worn on its outer face and up over the top edge (**Pl. 51**). If it were combined with another such piece, their external diameter would have been *c.* 2.7cm.

Nicks: 4. L 2.6cm. Wt 0.37g.

1:1,108. Curved fragment of silver beaded rod (MME: 1841,0711.735)

Fragment of irregularly beaded rod (D 0.2cm), slightly flattened on what was presumably its lower face; it is intact at one end, but broken at the other, being worn smooth on its outer face (**Pl. 51**). Its curvature suggests that it represents *c.*¼ of a ring which, if complete, would have had an external diameter of *c.* 2.7cm.

Nicks: 0. L 1.3cm. Wt 0.31g.

Hawkins 1847, 128, fig. 75; Bjørn and Shetelig 1940, 42 (s.3).

1:1,109 Curved fragment of three silver beaded wires, twisted together (MME: 1841,0711.736)

Fragment of three beaded wires, twisted tightly together to form a single rod (D 0.2cm); it is broken at both ends, but unsuitable for nicking (**Pl. 51**). The piece is slightly flattened and fused on one side, presumably from having been mounted on a silver sheet/plate to form the border of a circular pendant or small disc brooch. Its curvature suggests that it represents *c.* ¼ of such a ring, which, if complete, would have had an external diameter of *c.* 3.0cm.

Nicks: 0. L 2.0cm. Wt 0.29g.

Hawkins 1847, 127, fig. 73; Bjørn and Shetelig 1940, 42 (s.1), fig. 12.

1:1,110 U-shaped fragment of silver beaded rod (MME: 1841,0711.737)

Rod fragment of D-shaped section (0.13 x 0.12cm), with the curved face being regularly and finely beaded, whereas the flat side is plain; it is bent into a U-shaped loop and broken at both ends (**Pl. 51**). The beading remains in crisp condition and the piece shows no evidence of having been mounted for use.

Nicks: 2. L 1.8cm. Wt 0.33g.

1:1,111 Curved fragment of silver beaded rod (AC: 136)

Fragment of beaded/milled rod (D 0.2cm), cut at both ends from a ring (D *c.* 1.8cm), which is worn smooth on its outer face (**Pl. 51**).

Nicks: 0. L 1.4cm. Wt 0.25g.

1:1,112 Curved fragment of a pair of silver beaded and twisted wires (AM: 1909.551d)

Curved fragment from the border of a circular mount/brooch; cut at both ends (**Pl. 51**). Its outer edge consists of a single beaded wire (D 0.1cm) which is soldered to an inner row consisting of three beaded wires (D 0.15cm), twisted together.

Nicks: 0. L 2.5; W 0.25cm. Wt 0.40g.

Evans collection; Thompson 1956, pl. xii,a.

1:1,113 Fragment of a circular silver mount of twisted(?) wires (AM: 1909.551e)

Missing: curved fragment of seemingly twisted wires, cut at both ends from what was presumably a circular mount (cf. **1:1,112**); no further details available (**Pl. 51**; reproduced from Thompson 1956, enlarged to approximately full size).

Evans collection; Thompson 1956, pl. xii,a.

Pendants (1:1,114–17)

1:1,114 Fragment of a silver filigree-decorated (?)pendant (MME: 1841,0711.469)

Although much damaged and distorted, this fragment has the appearance of being derived from a lozenge-shaped pendant, given its intact angular edge and filigree decoration, together with an extension which could have served as a suspension loop (cut through); it has been cut and broken on two sides, with the edges part folded and part fused on the reverse, and is further cut across the centre (**Pl. 52**). The extant outer edge consists of a plain raised border (H 0.3cm), which is nicked, whereas the presumed suspension loop has a collar of beaded wire. The upper surface, which was sub-divided into (perhaps) three fields, is filled with granules, with the only complete field (top left) containing a plain cylindrical loop.

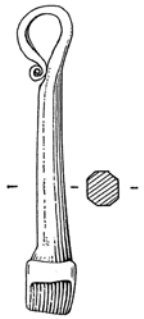
Nicks: 2. L 2.1 x 1.0cm. Wt 1.88g.

1:1,115 Silver hammer-shaped pendant (AC: 107)

Plain pendant, with a scrolled suspension loop terminating an octagonal-sectioned shaft, in the form of a chamfered rectangle; the hammer-head is naturalistic in form, narrower at one end than the other (**Fig. 6.16**; **Cat. Fig. 28**; **Pl. 52**). In excellent condition, with only a pair of small nicks on one side of the shaft.

Nicks: 2. L 4.1; W (head) 2.0; T (head) 0.6cm. Wt 9.00g.

Hawkins 1847, 129–30, fig. 85; Bjørn and Shetelig 1940, 43(t); Roesdahl *et al.* (eds) 1981, 88, F2; Jensen 2010, 111, no. 241.



Cat. Figure 28 Thor's hammer pendant (**1:1,115**): side-view (cf. **Fig. 6.16**).

1:1,116 Silver-gilt buckle-loop (AC: 145)

Cast buckle-loop, with Carolingian-style zoomorphic ornament (cf. **1:1,117**); the D-shaped hoop lacks its pin, but the plain bar is indented for its attachment and is worn (**Figs 2.3**, **6.18** and **7.8**; **Pl. 52**). The outer face of the loop has an outward-sloping section which is engraved with four inward-facing birds, in profile, their bodies speckled with triangular punch-marks; the central pair is separated from the other two by a simple plant-motif to either side. The ornament on the front is gilt, but the reverse is plain. It is possible that this buckle-loop may have seen secondary use as a pendant (together with **1:1,117**), not having needed to be fitted with a suspension loop. A piece of paper attached to the reverse was numbered '8'.

Nicks: 5. L 4.3; H 0.7cm. Wt 16.68g.

XRF-analysis (in SEM), by Janet Lang (BMRL: File 5935), determined that an animal's eye 'was made of a different and unusual combination of alloying elements, including copper, tin, lead, gold, mercury and a trace of zinc'.

Hawkins 1847, 192, fig. 100; Bjørn and Shetelig

1940, 44 (aa.1); Graham-Campbell 1987a, 338, fig. 8.

1:1,117 Silver-gilt rectangular belt-mount (AC: 146)

Rectangular open mount, with cast Carolingian-style zoomorphic ornament in relief (cf. **1:1,116**), which was converted into a pendant by the addition of a suspension loop to one end; this is now mostly missing except for its attachment-rivet (**Figs 2.3**, **6.18** and **7.8**; **Pl. 52**). Both the long sides are decorated on the front with a pair of lion-like animals, standing back-to-back, but with facing heads (occupying the corners); their manes are hatched, as also the ends of their tails, which pass between the hind legs and then across the body. The ends are filled with an animal mask, although one is defaced by the flattened rivet-head. The ornament on the front is gilt. The plain reverse is concave in section, except for having a cast rivet in each corner; part of the edge of one end had to be cut away to accommodate the plain silver suspension loop. A piece of paper attached to the reverse was numbered '9' (or possibly '6', but cf. **1:1,116**).

Nicks: 2. L 2.6; H (over animal heads and rivets) 0.7cm. Wt 8.40g.

Hawkins 1847, 192, fig. 99; Bjørn and Shetelig 1940, 44 (aa.2); Graham-Campbell 1987a, 338, fig. 8.

Miscellaneous Non-Viking Silver (1:1,118–21)

1. Anglo-Saxon strap-end and mount fragment (1:1,118–19)

1:1,118 Silver strap-end, with niello-inlaid decoration (MME: 1841,0711.456)

Strap-end engraved on the obverse with niello-inlaid ornament; the rivets are missing from its split-end. The following description of this piece of Anglo-Saxon ornamental metalwork (**Fig. 6.20**; **Pl. 52**) is taken from Wilson (1964, 128, no. 13): 'Between the rivet holes at the split-end are three pendant leaves within a fan-shaped field, the two outer ones turning back on themselves. At the terminal is a pattern based on a formalised animal head seen from above. The eyes are indicated by a pair of dots and the snout by a double curved line. The forehead bears a fan-shaped field containing a formalised pattern similar to that at the split-end, while the ears are comma-shaped and cross-hatched centrally – between the years is a small bifoliate pattern. In the centre of the strap-end is a sub-rectangular field with one convex end and slightly curved long sides, which are bounded by a beaded border. The field is ornamented by engraving and was originally inlaid with niello, of which some survives. It is divided by a cross, the arms of which have triangular terminals; at the junction of the arms is a square billet. In each quarter is a backward-looking animal [with a plain body, other than two pairs of contour nicks]. The hind-leg combines with the tail, crosses the body to interlace with a semi-circular ribbon behind the animal, and emerges to form a scrolled terminal. The animal has a squared snout, the mouth is open and the lower jaw is slightly shorter than the upper one, the forehead is domed and a small dot indicates the eye. The back is plain. The object is much worn.' Examination in the BM Research Laboratory, by Janet Lang (see below), indicated that it was 'made from two sheets, probably by soldering'.

Nicks: 8. L 5.0; W 1.65; T 0.2cm. Wt 10.7g.

XRF-analysis: BMRL (File 5935), by Janet Lang (1991).
Ag: 96%; Cu: 2.0%; Pb: 1.5%; Au: 0.3%

Hawkins 1847, 190, fig. 90; *BM Anglo-Saxon Guide* (1923), 108, fig. 132,5; Bjørn and Shetelig 1940, 43 (w), fig. 12; Wilson 1964, 28, 62, 128–9, no. 13, pl. xvii; Thomas 2000, 87–8, 368, no. 539.

1:1,119 Fragment of decorated silver mount (MME: 1841,0711.457)

Terminal fragment of an oblong mount, in the form of a strip with a rivet-hole and engraved ornament. The following description of this piece of Anglo-Saxon ornamental metalwork (**Fig. 6.20**; **Pl. 52**) is taken from Graham-Campbell (1970, 152–3). 'The terminal is plain with rounded corners and has a rivet-hole in the middle. The main ornamental field contains a contorted animal within plain lateral borders. The strip is broken along the contours of the animal's head. The head has a square snout with a domed forehead above a circular bored eye, and an amorphous ear. The elongated neck crosses the field diagonally and from its base is produced a leg with a three-toed paw which lies along the side of the field. From a full-formed rear hip is produced a thin leg with a three-toed paw. The back is plain.' There are some surface cuts and scratches.

Nicks: 3. L 1.55; W 0.7; T 0.06cm. Wt 0.48g.

Graham-Campbell 1970.

2. Pictish decorated strip and comb fragment (1:1,120–21)

1:1,120 Two fragments of a decorated silver strip (AC: 98)

Strip, in two pieces, with incised interlace ornament and repoussé dots; it is cut at one end and broken at the other, with a further main break. This is explained by the fact that the strip has clearly been folded up in the past to form a 'packet', presumably destined for the crucible, which has since been straightened out, with the exception of one fold towards its narrow cut end. At this cut end (W 1.4cm), part of one long side is also cut away, as far as the extant fold. There is, however, a consistent slight taper from the broken end to this point (W 1.96–1.7cm). The central field is filled with a six-strand interlace pattern, incised against a plain background, each strand being filled with a row of repoussé dots; there is an incised contour line along both long sides, forming a narrow border which is likewise filled with a row of repoussé dots (**Fig. 6.21**; **Pl. 52**). Although one long side would appear to have been clipped, it has in fact disintegrated along the incised lines, being of such thin sheet (0.04cm), which is too slight to have been nicked. There are no visible means of attachment or support.

Nicks: 0. L 7.4 and 4.2; L (estimated overall) *c.* 13.8cm. Wt (together) 3.82g.

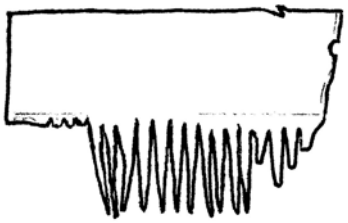
Graham-Campbell 1985, 251–2, illus. 3.

1:1,121 Fragment of a silver comb (AC: 155)

Comb fragment, with a straight back and one end broken across a rivet-hole (**Cat. Fig. 29**; **Pl. 52**). The terminal end was straight, but its lower part is broken away, together with the first three teeth. There is a lightly incised horizontal line, along one side, indicating the depth to which the pointed teeth were to be cut and shaped, with the remains of fifteen still surviving. There are two pairs of nicks along the top edge.

Nicks: 4. L 4.4; H 2.5; T 0.13cm. Wt 7.65g.

Graham-Campbell 1985, 253, illus. 5.



Cat. Figure 29 Comb fragment (**1:1,121**)

Miscellaneous Silver (1:1,122–24)

1:1,122 Silver tubular fragment (MME: 1841,0711.506)

Fragment of a plain tube of ovoid section (0.5 x 0.4cm), closed at one end by the blow which severed it (**Pl. 53**). It is heavily nicked for its size.

Nicks: 7. L 1.0; T 0.1cm. Wt 0.77g.

1:1,123 Silver U-sectioned fragment (MME: 1841,0711.507)

Semi-circular fragment of a U-shaped binding-strip, formed from a thin plain sheet (T 0.04cm); it is intact at one end and broken at the other, most probably from the same object as **1:1,124** (**Pl. 53**).

Nicks: 4 (on outer edge). D *c.* 2.0; W 0.3cm. Wt 0.66g.

1:1,124 Silver U-sectioned fragment (MME: 1841,0711.706)

Curved fragment of a U-shaped binding-strip, formed from a thin plain sheet (T 0.04cm), part flattened; it is largely intact at one end and broken at the other, most probably having formed part of **1:1,123** (**Pl. 53**).

Nicks: 0. L 1.5cm. Wt 0.45cm.

Addenda (1:1,125–53)

1:1,125 Silver band arm-ring fragment (MME: 1841,0711.696,c)
Cut obliquely at both ends; 'decorated' with two transverse lines (not illustrated).
Nicks: 1. L 0.55; T 0.3cm. Wt 1.29g.

1:1,126 Silver band arm-ring edge-fragment (MME: 1841,0711.696,e)
Severed on three sides from a plain band with a parallel cut across one end (**Pl. 29**).
Nicks: 1. L 0.8; T 0.25cm. Wt 1.29g

1:1,127 Silver annular band arm-ring terminal fragment (MME: 1841,0711.696,s)
Terminal fragment (**Pl. 53**), cut from a plain band (0.3 x 0.2cm), tapering to a hook-shaped rod (D 0.2cm).
Nicks: 4. Wt 0.94g.

1:1,128 Silver band arm-ring fragment (MME: 1841,0711.696,t)
Cut at both ends from a plain narrow band (**Pl. 53**).
Nicks: 2. L 3.7; W 0.3; T 0.2cm. Wt 2.13g.

1:1,129 Silver band arm-ring fragment (MME: 1841,0711.696,u)
Cut at both ends from a plain narrow band, tapering to one (0.5 x 0.25–0.3 x 0.2cm); flattened, bent and heavily nicked (**Pl. 53**).
Nicks: 14. L 3.3cm. Wt 2.68g.

1:1,130–32 Three silver annular rod arm-ring terminal fragments (MME: 1841,0711.696, p-r)
Three plain rod fragments (**Pl. 53**), each tapering to a looped terminal (D 0.3–0.2; 0.2–0.1; 0.3–0.1cm).
Nicks: 0; 0; 1. L 2.4; 3.0; 2.6cm. Wt 2.26; 0.90; 1.33g.

1:1,133–42 Ten silver rod arm-ring frags (MME: 1841,0711.697,e-h and j-o)
Ten plain rod fragments (D 0.4; 0.4; 0.4; 0.3; 0.3–0.2 (tapered); 0.35; 0.3 x 0.4 (ovoid); 0.3; 0.2; 0.2cm), cut at both ends (**Pl. 53**).
Nicks: 8; 8; 2; 2; 4; 1; 3; 0; 2; 0. L 3.0; 2.4; 2.2; 1.8; 1.9; 1.5; 0.8; 0.8; 0.9; 0.6cm. Wt 3.68; 2.98; 2.61; 2.51; 1.05; 1.38; 0.53; 0.41; 0.27; 0.25g.

1:1,143–5 Three silver polygonal-rod fragments (MME: 1841,0711.696,v-x)
Three plain tapered fragments (0.4 x 0.4–0.3 x 0.3; 0.4 x 0.3–0.2 = rod; 0.4 x 0.3– 0.25 x 0.25cm = lozenge), cut at both ends (**Pl. 53**).
Nicks: 9; 8; 6. L 3.4; 3.0; 2.4cm. Wt 3.77; 1.81; 2.34g.

1:1,146–51 Six silver polygonal-rod fragments (MME: 1841,0711.696,y-dd)
Six plain fragments (0.6 x 0.6; 0.3 x 0.3; 0.45 x 0.4; 0.5 x 0.4; 0.5 x 0.4; 0.3 x 0.3cm), cut at both ends (**Pl. 53**).
Nicks: 6; 8; 6; 3; 0; 4. L 1.3; 2.4; 1.9; 1.4; 0.8; 1.7cm. Wt 3.04; 2.13; 2.50; 1.75; 0.95; 0.93g.

1:1,152 Silver band (?)finger-ring fragment (MME: 1841,0711.696,jj)
Cut at both ends from a plain narrow band (**Pl. 53**).
Nicks: 0. L 1.0; W 0.3; T 1.5cm. Wt 0.40g.

1:1,153 Silver rod (?)finger-ring fragment (MME: 1841,0711.697,i)
Cut at both ends from a plain rod (D 0.4cm), curved to finger-ring size, with three cuts (**Pl. 53**).
Nicks: 4. L 1.8cm. Wt 1.89g.

Bone Pins & Needle (1:1,154–58)

1:1,154 Bone pin (MME: 1954,0202.1)
Pin of circular section (L 11.1cm), with a small collared head (**Fig. 6.22,1**).
Ex-Berkeley-Weld collection (see p. 177): Kendrick 1941; Edwards 1984, no. 3 (for these four pins and the needle, see also Graham-Campbell 1987a, 341–2, fig. 13; Edwards 1998, 66, fig. 33).

1:1,155 Bone pin (MME: 1954,0202.2)
Conical pin of circular section (L 9.2cm), with a flat head (**Fig. 6.22,2**).
Ex-Berkeley-Weld collection (see p. 177): Kendrick 1941; Edwards 1984, no. 2.

1:1,156 Bone pin (Swarbrick collection)
Pin of circular section (L 9.5cm), with a plain expanded head (**Fig. 6.22,3**).
Ex-Berkeley-Ward and Charnley collections: Kendrick 1941; Edwards 1984, no. 4.

1:1,157 Bone pin (Swarbrick collection)
Pin of circular section (L 7.1cm), with a small polyhedral head (**Fig. 6.22,5**).
Ex-Berkeley-Ward and Charnley collections: Kendrick 1941; Edwards 1984, no. 1.

1:1,158 Bone needle (Harris Museum, Preston)
Needle of sub-triangular section (L 9.3cm), with an oblong perforation through its head (**Fig. 6.22,4**).
Ex-Berkeley-Weld and Charnley collections: Kendrick 1941; Edwards 1984, no. 5.

Lead Fragments (1:1,159)

1:1,159 Fragments of lead sheet (AC: 161–3)
Corroded fragments of featureless lead sheet, varying in thickness from 0.2–0.3cm (in the case of AC: 161–2), with some folded pieces. Those registered as AC: 161 (Wt 234.7g) were contained in a packet made from a sheet of paper addressed to 'John Teesdale Esqre' (**Fig. 6.23**), whereas AC: 162 (Wt 4.53g) was contained in another paper packet, labelled 'Broken Pieces' (both from Drawer 8, in the Assheton Cabinet). A few fragments of a single piece, registered as AC: 163 (Wt 1.24g), from Drawer 5, differ slightly in appearance from the others, but they are highly corroded so that they might also derive from the same lead vessel/container(?).

A fragment analysed by Dr Hugh McKerrell, at the Research Laboratory of the (then) National Museum of Antiquities of Scotland (courtesy of Lord Clitheroe), was 'virtually pure lead with no interesting or useful impurities' (pers. comm., 3 November 1976).
Graham-Campbell 1993a, 83; Edwards 1998, 54–5, fig. 29.

2 Flusco Pike (no. 1), near Penrith, Cumbria

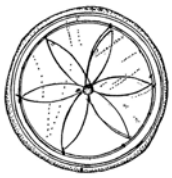
Coinless hoard of silver penannular brooches, found in 1785, 1830 and 1989.
MME: 1909,0624.1. Purchased from Rollin & Feuardent, London, in June 1909; found in 1785 (**2:1**);
MME: 1904,1102.3. Bequeathed by William Forster, Carlisle, in November 1904; found in 1830 (**2:2**);
MME: 1991,0109.1–10. Acquired as Treasure Trove in January 1991; found in 1989 (**2:3-12**).

2:1 Silver penannular 'thistle-brooch' (MME: 1909,0624.1)

The brooch has separate ball-shaped terminals, both of which are damaged, and a socketed pin-head; the pin-shaft has been re-fixed into the socket, slightly askew, and the broken pin-tip re-joined to it (**Pls 54–5**). The plain hoop is of circular section (0.9cm); it was poorly finished and now has a cracked surface. The ends are narrowed to fit through the hollow-cast terminals, which are perforated to receive them. The terminals are fully rounded (D 3.4cm), with brambled fronts, parts of both of which have broken away, presumably weakened by the depth of the criss-cross filing used to create the spiky brambling, in combination with ring-stamping; the ring-stamp used for the brambling is slightly larger in diameter than that used for the edging (**Fig. 8.3,32–3**). The area of brambling on the front is delimited on either side of the terminal by a pair of V-shaped incisions (creating a plain moulding between them). The reverses have a compass-incised 'marigold' pattern (with five 'petals'), within two concentric circles; these are mostly worn away, as is the identical pattern on the reverse of the brambled pin-head. The terminals have elongated collars on both sides, which have the same arrangement of three separate mouldings: one plain, between two which are transversely hatched/ring-stamped. The same arrangement is repeated on both the top of the pin-head and its pin-socket, whereas its side-collars are even simpler, being plain with just an outer moulding. The compass-incised 'marigold' pattern on the reverse has already been mentioned, but there is another on the everted pin-top (D 2.1cm); in this case, it is hexafoil, within two concentric circles (**Cat. Fig. 30**). The pin-shaft commences circular in section, but becomes lozenge-sectioned to rest on the hoop when in use and for the rest of its length, tapering to its broken and repaired tip; in fact, for much of its length, it has an hexagonal section, the side-angles having been flattened. There is a pair of incised parallel lines, faintly visible, running down part of one front face. A couple of small nicks are present on the pin – and there are about half-a-dozen nicks and slices from the hoop, but its poor surface condition (as already noted) makes an exact determination impossible, given that they are all slight, presumably so as not to affect the appearance of the brooch.

Nicks: 8(?). D (hoop) 19.0; L (pin) 51.2cm. Wt 678.0g.

For the history of this brooch (discovered in April 1785, in what became known as the 'Silver Field', near Flusco Pike, on Newbiggin Moor), and a bibliography, see **38** (pp. 263–5).



Cat. Figure 30 Silver 'thistle-brooch' (**2:1**), from Newbiggin, nr Penrith (Flusco Pike, no. 1, hoard): pin-top decoration

2:2 Silver penannular 'thistle-brooch' (MME: 1904,1102.3)

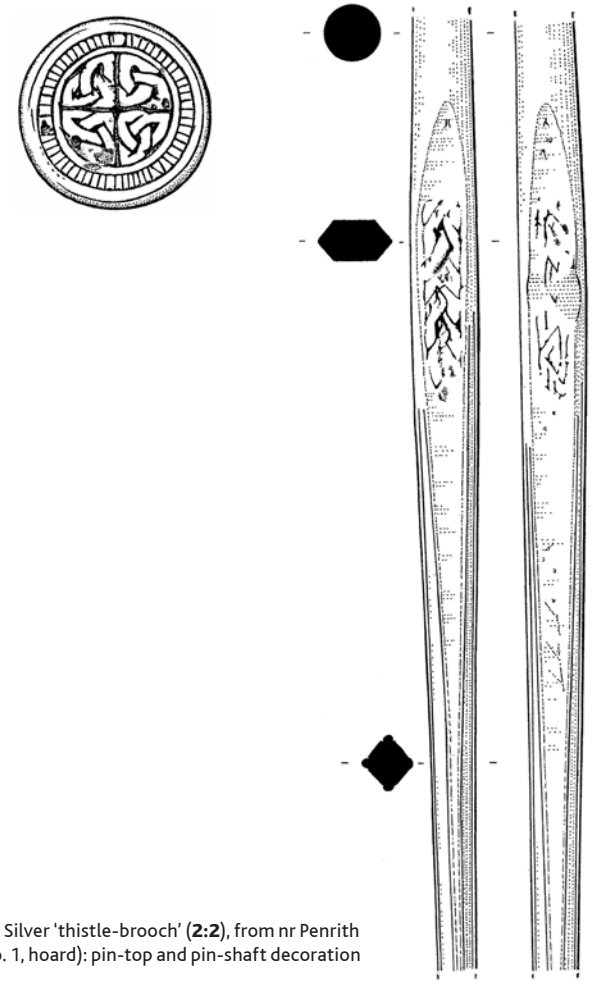
The brooch had separate ball-shaped terminals (D 4.3cm), one of which is missing, but the pin and pin-head were cast together (**Pls 56–7**). The brambling on the front is ring-stamped (**Fig. 8.3,34**). On the reverse, there are four compass-incised circles, of which the central two form a billeted roundel; within the innermost circle are four triquetras, against an engraved background, arranged so as to form a 'negative' cross. The ornament on the pin-top (**Cat. Fig. 31**) is the same as that on the reverse of the pin-head. The hoop, which is of circular section (D 0.9cm), has opened up since manufacture (D 19.4cm), and the wear on the reverse of the pin indicates that it will originally have been *c.* 15.0cm in diameter. The pin-shaft (**Cat. Fig. 31**) starts circular in section (D 0.9cm), but is then flattened on both sides, with stretches of three-strand interlace – that on the reverse being very worn where it rested on the hoop during use; the shaft then becomes lozenge shaped, with pairs of parallel lines incised on all four faces for the rest of its length. There is one group of four nicks on the outer face of the hoop.

Nicks: 4. D (hoop: present) 19.4; (hoop: estimate) *c.* 15.0; L (pin) 51.5cm. Wt 651.0g.

For the history of this brooch (discovered in 1830, in 'a field at Penrith'), and its bibliography, see **37** (p. 263).

2:3 Silver penannular 'thistle-brooch' (MME: 1991,0109.1)

The brooch has solid ball-shaped terminals and a cast pin (**Pl. 58**); it has a plain hoop, of circular section (D 0.7cm), cast together with its terminals, the inner collars of which have an incised billeted band, repeated around the ends of the flared terminals. The fronts of the terminal balls (D 1.9cm) are decorated with low, flat, brambling (finished with ring-stamping), with the fully-rounded backs left plain. The pin is cast in one around the hoop, with the pin-head having a brambled front, between plain collars, and a plain reverse. The top of the expanded pin-top is plain (except for a centre-point), but around it is the same billeted band employed on the terminal collars; this is also repeated around the collar between the pin-head and shaft. The plain pin-shaft is circular in section, tapering to its end (D 0.7–0.3cm), although its actual tip is missing. This brooch shows considerable



Cat. Figure 31 Silver 'thistle-brooch' (**2:2**), from nr Penrith (Flusco Pike, no. 1, hoard): pin-top and pin-shaft decoration

signs of wear – the heaviest of all the brooches found together in 1989 – and of some abrasion, both ancient and more recent. There is a double nick on the reverse of the pin-shaft.

Nicks: 2. L (pin: tip missing) 26.0; D (hoop) 7.4cm. Wt 207.7g.

Richardson 1996, 37, no. 1, pl. 1; Edwards 1998, 35, fig. 18; Johnson 2001, fig. 25 (caption: fig. 24).

2:4 Silver bossed penannular brooch (MME: 1991,0109.2)

Of Johansen's (1973) 'subgroup B' with 'sub-rhombic' terminals (**Pls 60–1**), this brooch has lightly-incised 'graffiti' on both sides, including two Norse runic inscriptions on the reverse (as described separately, below). One of the detached silver bosses (**2:9**) is demonstrably that missing from the front of the pin-head; indeed, it is described in the report from the British Museum Research Laboratory as having been 'recently detached'. The brooch is otherwise in excellent condition (despite some signs of wear), except that the tip of the pin is missing (broken). The hoop is of D-shaped section (0.8 x 0.4cm) and plain on the front, except for a beaded band (ring-stamped) and a plain moulding, together forming a collar around the neck of the animal-head at the junction of the hoop and terminal; in addition, there is an incised line around the inner edge of these collars, although that on the left has mostly been worn away. The animal heads have modelled eyes and rounded snouts. Both of the flat terminals (W 4.5cm) have a large central boss, with a smaller one on the reverse (connected by an invisible rivet); there is a double beaded border, with a single beaded row around the boss. This is matched on the reverse with a pair of concentric circles, containing a row of punched triangles, around the boss; the border consists of a pair of incised lines, between which is a similar row of punched triangles, with the addition of a circle in each of its four corners. The cylindrical pin-head is fastened around the hoop with what was a double-headed rivet, with the bosses being perforated for attachment (cf. **2:9**). The pin-head is decorated with three rows of ring-stamped beading. The pin-shaft commences circular in section (D 0.5cm), but has a concave area on the reverse (where it would have rested on the hoop during use), before becoming lozenge-shaped and tapering to its missing tip; this lower part has lightly-incised decoration (see below). There is a single nick on the reverse of the outer edge of the right-hand terminal, but so discreetly executed as to be invisible from the front.

Nicks: 1. D (hoop) 10.4; L (pin: tip missing) 18.2cm. Wt 151.0g (with boss 2:9 = 152.0g).

The elaborate '*graffiti*' take two forms (that is in addition to the two separate runic inscriptions), some of which is clearly intended to be ornamental, although so lightly incised (or scratched) as not to be immediately visible, with the rest appearing to be the equivalent of 'doodling'; both practices are readily paralleled on other such brooches, e.g. the well-known fragment in the Icelandic silver hoard from Sandmúli (Graham-Campbell 1995, 43, fig. 22; cf. O'Meadhra 1987, 116–17, fig. 79).

The deliberately decorative element consists of step (or key)-pattern: (i) around the reverse of the hoop, between a pair of incised lines; (ii) also on the reverse of the hoop, in a transverse band at the junctions with the terminal; (iii) across both of the two front surfaces of the lozenge-sectioned part of the pin-shaft; and (iv) on both of its two reverse surfaces, but between border lines and preceded by a group of diagonal lines.

The 'doodling' takes three forms: (i) the addition of lines which relate to the primary ornament; (ii) the addition of some further lines of no obvious significance; and (iii) the addition (on the reverse) of some 'motifs'. On the front, pairs of lines have been added following the inside edge of the beaded borders on both terminals, as also on the outside edges facing across the 'gap'. The right-hand terminal has a single circle surrounding the circular beaded border around the boss, whereas the left-hand one has a group of four chevrons, linking the central border to the outside angle. On the reverse of the terminals, within the borders, there is a diagonal line incised across each of the four angles, except for that (in the reverse of the right terminal) occupied with the two runes: **f u** (for which, see below). Both terminals have some additional lines, within their borders, of no obvious significance, but the reverse of the left terminal has two 'motifs': a complete quatrefoil interlace knot; and the beginnings of a three-strand interlace (imperfect).

The following abbreviated account of the Norse runes is adapted from Barnes and Page (2006, 331–3) and is illustrated (**Cat. Fig. 32**) with their fig. 61; the brooch is catalogued by them as 'E 15 Penrith' (*ibid*., pls 90–2):

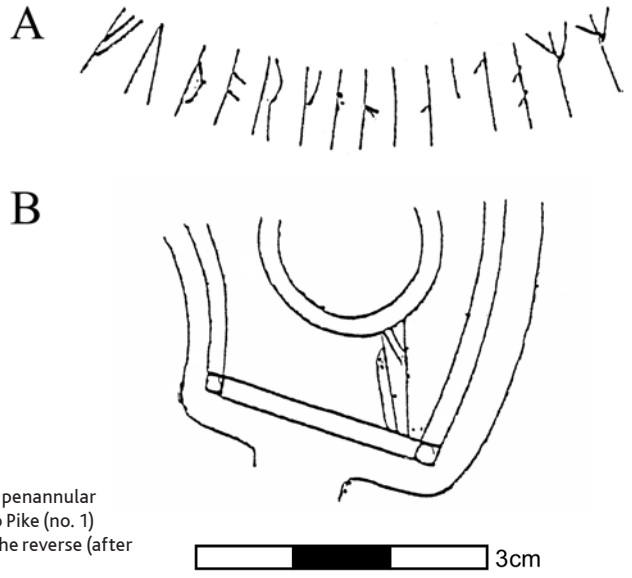
> The fifteen runes (A) on the reverse of the hoop of this brooch appear to be superimposed upon the incised key-pattern, their incisions being finer and deeper. They record a *fuþark*, not quite complete: **fuþorkhniastbmm**. The runes are quite competently formed and their types are consistent with the range of brooch dates suggested. The type of rune used for the **h** is one not found anywhere else in the British Isles save the Isle of Man. In addition, a pair of runes (B) is incised on the reverse of the right terminal; they are retrograde and read (right to left): **f u**. Their forms differ in detail from those of A and are cut more delicately, so that they are likely to be by another hand, almost certainly carved with another tool. This pair of runes is presumably an abbreviated *fuþark*, something that occurs not infrequently in runic practices at various dates.

As noted above, the 'delicacy' with which the shorter runic inscription (B) is executed matches that of the 'graffiti', including that underlying the longer *fuþark* (A), so that these could well be by the same hand. The absence of a diagonal line from the corner otherwise occupied by these two runes might be taken to support this suggestion.

Richardson 1996, 37–8, no. 2, pl. 2a–b; Edwards 1998, 35, fig. 19; Page 1999, 205, fig. 70; Johnson 2001, fig. 6; Barnes and Page 2006, 331–3, fig. 61, pls 90–2.

2:5 Silver penannular 'thistle-brooch' (MME: 1991,0109.1)

Although this brooch has separate ball-shaped terminals, its pin and pin-head are cast together (**Pl. 59**). It has suffered much ancient damage and is now in three pieces, but it is otherwise in good overall condition. The plain hoop, which is circular in section (D 0.8cm), is distorted and stress-cracked, but one of the open-ended terminals is still attached; the other terminal has become detached, with a damaged inner collar, part of which is now missing, revealing its hollowed-out interior. The pin-shaft has likewise suffered ancient damage being cracked and bent, but its missing tip is the result of modern damage. The terminals (D 2.7cm) and pin-head ball are fully rounded and are deeply brambled all over, with ring-stamping. The outer terminal-collars have a pair of grooves, but are otherwise plain; the inner collars begin plain, but then have a wide billeted band, a plain moulding and a beaded border. The plain everted pin-top (D 1.5cm) has a



Cat. Figure 32 Silver bossed penannular brooch (**2:4**), from the Flusco Pike (no. 1) hoard: runic inscriptions on the reverse (after Barnes and Page)

plain moulding; its top is decorated with an incised cruciform motif. This consists of a double circle, with centre-point, from the inner of which project four diagonal lines, terminating in V-shapes; four T-shapes radiate from the centre-point. Its side-collars are plain with a single moulding and that between the pin-head and shaft consists of a billeted band between two plain mouldings. The plain pin-shaft commences circular in section (D 0.7cm), but becomes lozenge-shaped and tapers towards its missing tip. There is a pair of nicks on the edge of the pin-top, which is scraped between them.

Nicks: 2. L (pin: tip missing) 20.0cm. Wt 207.7g.

Richardson 1996, 38, no. 3; Edwards 1998, 35, fig. 20; Johnson 2001, fig. 9 (caption: fig. 8) and fig. 28 (bottom right: simplified drawing).

2:6 Silver bossed penannular brooch (MME: 1991,0109.4)

Of Johansen's (1973) 'subgroup A', with sub-triangular terminals, this brooch is broken and fragmentary, with three pieces now joined which had been broken as a result of ancient damage (**Pl. 62**). Although its (bent) hoop is complete, the pin is missing, but this could be represented by either or both fragments **2:8** and **10** (cf. **2:7**), although it is suggested above (p. 115) that it is the pin-shaft (**2:8**) which is the more likely of the two to derive from this brooch. Two of the five bosses are missing from the left-hand terminal, as a result of recent damage, but that from the outer angle is to be identified with **2:12**, the detached boss with beaded collar (and associated rivet); however, the boss detached from the *in situ* rivet, at the centre of the terminal, appears not to have been recovered. On the other hand, the boss missing from what little remains of the right-hand terminal is the result of ancient damage. The plain hoop is of D-shaped section (0.7 x 0.3cm) and has a – barely recognisable – animal head, in profile, at the junction with the terminal plate, which is stepped down. As noted above, the bosses have integral beaded borders (all being *c*. 1.0cm in diameter), but separate rivets. The five bosses are linked, in the standard design, by billeted bands, with each of the four fields containing unintelligible (billeted) interlace, incorporating simple scrolls; this may, however, be identified as pseudo-zoomorphic by reference to better designed brooches (e.g. **Fig. 1.20**; see also **2:7**). The border alternates plain and billeted panels. The reverse has a pair of contour lines around both the hoop and terminals, with neatly executed triquetras (against a hatched background) at the junction of the hoop and terminals. There are billeted bands in arcs around the three outer rivet-heads and a complete billeted circle around that in the innermost angle; these are linked by narrow billeted bands to that encircling the central rivet, which is filled with basketwork hatching. Despite the poor quality design, the brooch itself is well finished, and – despite the damage – it remains in good condition, with the back showing no evident signs of wear (cf. **2:7**).

Nicks: 0. D (bent) 8.3; W (terminal) 5.5cm. Wt 49.3g.

Richardson 1996, 38–9, no. 4, pl. 4; Edwards 1998, 35; Johnson 2001, fig. 7 (caption: fig. 6, with incorrect reg. no.).

2:7 Silver bossed penannular brooch (MME: 1991,0109.5)

Of Johansen's (1973) 'sub-group A', with sub-triangular terminals, this brooch is now broken and fragmentary (**Pl. 63**). What remains of the left-hand terminal (**Fig. 6.3**) was delivered up only after the Treasure Trove Inquest had taken place in July 1990 (and is therefore not described in Richardson 1996). The greater part of the hoop is missing and thus also the pin, but this could be represented by either or both fragments **2:8** and **10** (cf. **2:6**), although it is suggested above (p. 114), on the basis of comparison with that on Johansen's A7 (from 'Ireland'), that it is the pin-head (**2:10**) that is the more likely of the two to derive from this brooch. The plain hoop is of D-shaped section (0.9 x 0.4cm), with an animal head in profile (with open jaws, displaying fangs and teeth) forming the junction with the terminal plate. The four-boss design is non-standard (as discussed above, p. 114) in that the beaded bands that divide the terminal into three fields do not link them together (cf. **2:6**). The three bands that extend from the central boss extend directly to the edges of the terminal, where they meet the beaded border, thus dividing it into three fields. The innermost (and largest) field contains a pair of bird-like creatures, with billeted bodies: two necks, with beaked heads, droop down from the innermost edge of the boss; with, below, four bands ending in simple scrolls. These could be interpreted as wings and tails (with no legs). The smaller (inner) of the other two fields contains a single, inward-facing, creature with a squared-off snout, with a billeted body terminating in a pair of plain (crossed) legs, with a spiral hip, and ending in toes; lacking a foot, the plain forequarters with spiral joint is probably best interpreted as a wing. The animal (winged biped) in the outer field is likewise inward-looking and similarly arranged, with crossed legs interlacing with its wing; however, being somewhat larger, in addition to the beading on its body, its head is speckled – and the wing and one of the legs are billeted. The reverse of the brooch is plain except for pairs of compass-incised circles around each rivet-head, but these have become faint through wear (and the rivet-heads are smooth). Otherwise (apart from the missing beaded collars), what remains of this brooch is in good condition, despite having been broken into pieces.

Nicks: 0. W (terminal) 4.6cm. Wt 80.9g.

Richardson 1996, 41, no. 5, pl. 5; Edwards 1998, 35–6.

2:8 Fragment of silver pin-shaft (MME: 1991,0109.6)

Broken at both ends (**Pl. 63**), this is approximately the mid-portion of a pin-shaft which commences circular in section (D 0.4cm), but which changes to oblong (rectangular, with hammered angles), before tapering towards the missing tip. It is possible that it was originally associated with the fragmentary pin-head (**2:10**; see below), which is from a bossed penannular brooch and thus presumably either **2:6** or **7**, although it is suggested above (p. 115) that its somewhat unusual form relates it most closely to brooch **2:6** (because of its similarity to that on Johansen A13), whereas the pin-head is more likely to have belonged to **2:7**.

Nicks: 0. L 8.1cm. Wt 11.3g.

Richardson 1996, 41, no. 6a.

2:9 Silver boss (MME: 1991,0109.7)

Although crushed, this boss – with its open top (**Pl. 60**) – is to be identified with that missing from the pin-head of the, otherwise complete, bossed penannular brooch (**2:4**).

Nicks: 0. L 1.3cm. Wt 1.0g.

Richardson 1996, 41, no. 6b.

2:10 Silver pin-head fragment (MME: 1991,0109.8)

Of cylindrical type, the back of the pin-head and the pin itself are both broken away (**Pl. 63**). It has raised edges and a central band with a single groove. This derives from a bossed penannular brooch, so presumably either **2:6** or **7**; it might originally have been associated with the pin-shaft fragment (**2:8**), although this pin-head type is the same as that to be found on Johansen A7 (from 'Ireland'), with which brooch **2:7** has many features in common (see p. 114, above).

Nicks: 0. L 2.4; W 1.8cm. Wt 4.9g.

Richardson 1996, 41, no. 6c.

2:11 Silver conical boss, with silver rivet (MME: 1991,0109.9)

With its open top and internal rivet (**Pl. 63**), this boss is not obviously associated with any of the extant brooches from this hoard (unless it had been in use as a replacement).

Nicks: 0. L (rivet) 1.1; H (boss) 0.8; D 0.8cm. Wt 1.5g.

Richardson 1996, 41, no. 6d.

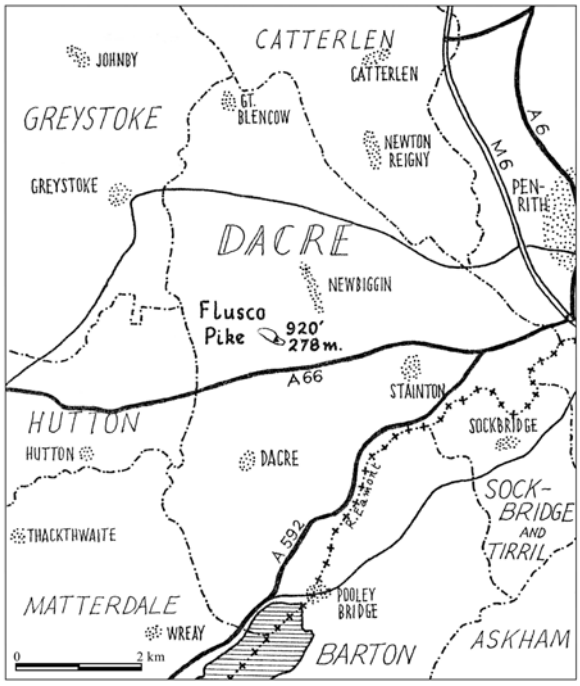
2:12 Silver boss, with integral beaded collar (MME: 1991,0109.10), and associated silver rivet

The form of this boss (**Pl. 62**), with its closed top and integral collar (Johansen Type 3), demonstrably associates it with bossed penannular brooch **2:6**, which has a recent loss from the outer angle of its extant terminal.

Nicks: 0. L (rivet) 0.7; H (boss) 0.7; D (with collar) 1.0cm. Wt 0.9g.

Richardson 1996, 41, no. 6e.

The two largest silver 'thistle-brooches' (**2:1** and **2**) were both found singly, in 1785 and 1830 respectively, so that the circumstances of their discovery and subsequent histories are described separately below (**38** and **37**). The remains of five or six further brooches (if the unique boss (**2:11**) is taken as representing a missing brooch) were located, in October 1989, by James Longton and Gerald Carter using divining-rods and a metal-detector to search the same 'Silver Field' in which the first brooch had been discovered, during



Cat. Figure 33 Location map of Flusco Pike, Cumbria (after Edwards)

harrowing, in 1785. This field, which is on common land that was enclosed in 1773, is located on the hill now called Flusco Pike, near Newbiggin, to the west of Penrith (**Cat. Fig. 33**). The location was then investigated by Colin Richardson for Tullie House Museum, Carlisle, but no further ancient artefacts were recovered. At the Inquest, held at Penrith on 23 July 1990, the brooches and brooch fragments were declared to be Treasure Trove and were subsequently acquired by the British Museum (Richardson 1996, 35). The conclusions of the report by Leslie Webster (British Museum) to the Coroner for North-East Cumbria, dated 24 May 1990, have been summarised in print by Richardson (1996, 42–3), as follows:

> The brooches and fragments recovered from Silver Field in 1989 were almost certainly a single deposit. Their present fragmentary and damaged condition occurred subsequent to burial, probably by ploughing, and this would also account for their dispersal within the area of investigation. There is no evidence to suggest that they were deliberately cut up for re-smelting before being deposited. In the absence of any associated evidence for contemporary metalworking, it seems unlikely that their deposition is related to a manufacturing site. Their appearance in a location which has already produced at least one brooch of similar type and date, can hardly be coincidental. It strongly suggests that they were buried for safe-keeping …

The remaining 'thistle-brooch' (**2:2**), which was discovered in 1830, is only recorded as having been found 'in a field near Penrith', but it relates typologically to both the 1785 brooch (**2:1**) and one of the 1989 brooches (**2:5**), with which it should, therefore, be contemporary. It may thus also have formed part of the same hoard, but such must inevitably be considered as no more than a probable association, but taken together their combined weight of silver is 2.14kg (although it must be borne in mind that some components are lacking, supposing – as seems probable – that all the brooches were complete when buried).

In fact, all the brooches are closely similar in their silver composition, with small amounts of copper and traces of gold and lead, as demonstrated by Duncan Hook of the British Museum Research Laboratory, in March 1990. His two reports, one on the 1989 finds and the second on the two earlier brooches (File No. 5941), were combined by Richardson (1996, 41–2) from whose publication they are reproduced here with minor modifications, but including the re-numbering of the brooches, as above (NB: the brooches were reweighed for this catalogue, after cleaning).

The two earlier brooch finds of 1785 (**2:1**) and 1830 (**2:2**) were analysed in order to compare them with the 1989 finds, with which they were found to be 'similar in composition'. These two 'thistle-brooches' were analysed using XRF on areas of metal which had been gently cleaned.

Various components of the 1989 brooches were analysed using XRF on unabraded surface metal, except for the pin on brooch **2:3**, which was analysed at an area of clean metal caused by recent abrasion of the surface. Most of the results in the following table should, therefore, be regarded as semi-quantitative only. The five miscellaneous brooch fragments (**2:8–12**) were also analysed to try and establish whether they were related to the main bossed penannular brooches in terms of their composition. However, the overall similarity in composition, and the lack of accuracy in the analytical method used, meant that it was not possible to ascribe the loose fragments to particular brooches on this basis.

A further silver hoard, known as Flusco Pike (no. 2), was found in the vicinity during a metal-detecting survey undertaken in October 2005. A complete ingot and a quantity of hack-silver derived from ingots, a ball-type brooch, a plaited neck-ring and other rings (together weighing approximately 325g), were recovered with over 100 coins or coin fragments, dating its deposit to *c.* 925 (*Treasure Annual Report 2005–6*, 101–2, no. 310). The nature and contents of this further find distinguish it from the brooch hoard(s) catalogued here, even if they may well have been contemporaneous depositions (see above, p. 156).

	Ag%	Cu%	Au%	Pb%
1: pin	96.3	2.9	0.5	0.3
1: hoop	92.6	4.9	0.7	1.8
2: pin	94.9	3.8	0.5	0.7
2: hoop	93.4	5.5	0.5	0.6
3: pin (abraded)	96.3	2.8	0.4	0.3
3: hoop	96.2	2.5	0.4	0.6
4: pin	96.4	2.5	0.4	0.5
4: hoop	96.0	2.5	0.3	1.0
4: boss	97.0	2.0	0.3	0.6
5: pin	96.2	2.5	0.5	0.6
5: hoop	96.4	2.5	0.4	0.6
6: hoop	95.7	2.8	0.4	1.0
6: boss	95.6	3.0	0.4	0.8
7: hoop	95.8	2.9	0.8	0.5
7: large boss	97.4	1.7	0.6	0.2
7: small boss	98.0	1.1	0.7	0.2
8: pin frag.	97.2	2.1	0.4	0.2
9: crushed boss	98.5	0.7	0.4	0.2
10: pin-head frag.	98.0	1.3	0.4	0.2
11: conical boss	96.2	2.7	0.4	0.7
12: boss	95.8	2.8	0.5	0.7

For the brooches discovered in 1785 (**2:1**) and 1830 (**2:2**), see **38** and **37**; for the Flusco Pike (1989) hoard, see: Edwards 1992, 49–50, nos 13–14; Richardson 1996; Edwards 1998, 33–7, figs 17–20; Graham-Campbell 1998, 110–12, fig. 4.3; 2001b, 213, 223–5, no. 11; Johnson 2001, 341, figs 7, 9, 25 and 28.

3 Goldsborough, near Knaresborough, North Yorks

Mixed silver hoard (part lost), found in 1858; deposited *c.* 925.
In (a) the British Museum; and (b) St Mary's Church, Goldsborough (Ripon Cathedral Treasury); with (c) a pencil drawing in the Society of Antiquaries of London (Ms. 700/III/6).

(a) The British Museum

MME: 1859,0511.1–11. Purchased from the Hon. and Rev. J.W. Lascelles, Rector of Goldsborough, in 1859.

3:1 Silver penannular 'thistle-brooch' (MME: 1859,0511.1)

The brooch has solid terminals and a cast pin (**Pl. 64**), with a plain hoop of circular section (D 0.55cm), cast together with its ball-shaped terminals, between plain mouldings, the outer one of which has an additional cylindrical moulding, with a flat end to the hoop. The terminal balls (D 1.45cm) are brambled on the front, within a hexagonal field, with deep criss-cross engraving and ring-stamping (**Figs 8.3,35** and **8.5**); the plain reverses are rounded. The pin is cast in one around the hoop (with a large aperture), with the pin-head having a brambled front, between plain mouldings; the ring-stamping is so deeply executed that virtually all traces of the criss-cross engraving has been removed (unlike on the terminals). On the pin-top (D 1.0cm) there is an off-centre drill-hole, within a concentric circle. The pin-shaft is circular in section (D 0.6cm) tapering slightly until *c.* 3.0cm from its tip, where it is hammered to a lozenge section and both its upper two faces bear the worn remains of lightly incised ornament in the form of a row of chevrons; the shaft is flattened where it rested on the hoop during use. The various nicks and slices are confined to the pin-shaft.

Nicks: 7. L (pin) 19.8; D (hoop) 6.9cm. Wt 115.9g.

3:2 Silver bossed penannular brooch hoop (MME: 1859,0511.2)

Penannular brooch hoop of Johansen's (1973) 'subgroup D' (Graham-Campbell 1975, 35, 'subgroup C/D'), decorated with cast (including openwork) and incised ornament, with two additional bosses (**Pl. 64**). The hoop of plano-convex section (0.7 x 0.4cm) has a plain raised ring around it at the junctions with the flat terminal-plates (0.2cm); it is plain on the front, but its reverse is incised with a pair of contour lines (almost completely worn away). The circular terminals are linked to the hoop by an animal head, in profile, with hatched and dotted details, and a basal spiral. They have an openwork marginal animal, with hatched body and scrolled joints; the head has a beak-like snout, dot for an eye, a central field filled with dotting, and a basal spiral. There is a central boss on both terminals, with a beaded collar (soldered to a flange or separate disc), secured by a rivet through to the reverse of the plate. The boss is surrounded by a hatched border, within which (on the right-hand terminal only) is a ring of dots. On the reverse (**Cat. Fig. 34**), there are three concentric circles incised around the central rivet, with a lightly incised scroll and connecting line on the protruding element formed by the hindquarters of the marginal animal. Despite the obvious signs of wear, the ornament of this brooch hoop remains in generally good condition; there are three certain nicks and several further possibilities.

Nicks: 9 (3+6?). D (hoop) 8.2; H (over boss) 0.9cm. Wt 71.5g.

Johansen 1973, 121, D2, figs 12,a, 17,a and 55; Graham-Campbell 1975, 34, pl. vi,b; Johnson 2001, fig. 4.

3:3 Silver terminal fragment from a penannular 'thistle-brooch' (MME: 1859,0511.3)

Terminal fragment of a penannular brooch, in the form of a solid ball severed through from on top, with flattening to the reverse (**Pl. 64**). All the undamaged surface of the ball is covered with low brambling (which was presumably, therefore, originally all over), executed by shallow engraving and ring-stamping (**Fig. 8.3,36**). The plain end to the terminal is rounded, with a billeted band between two raised mouldings, linking it to the brambled ball.

Nicks: 2 (a pair on the lower cut angle). L 1.4; D 1.6cm. Wt 11.0g.

3:4 Silver brooch terminal fragment (MME: 1859,0511.4)

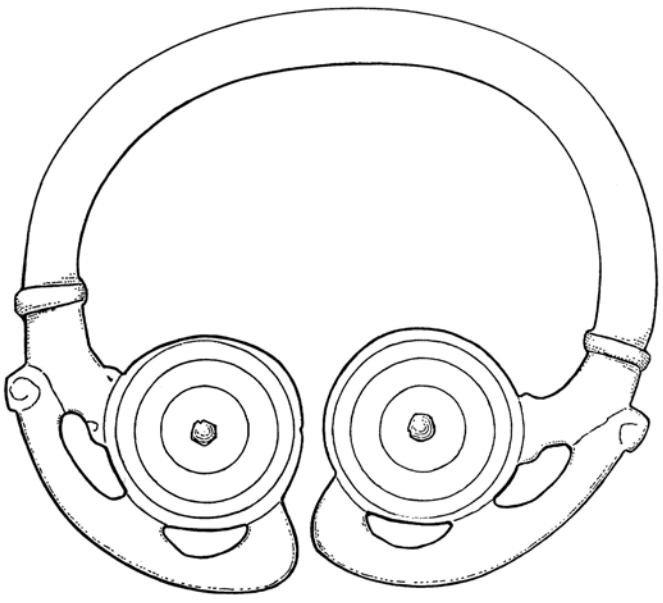
This brooch fragment, with cast and incised ornament, is severed at both ends, from two angles across the hoop (**Pl. 64**). It would appear to have been cut from a type of silver pseudo-penannular brooch represented by a complete example in the National Museum of Ireland, Dublin (unprovenanced: Johansen 1973, fig. 33), and two fragments in the Cuerdale hoard (**1:1,019–20**). The main part of the terminal is in the form of an empty circular compartment with a raised moulding (ext. D 1.7cm) on the inside of which are five regularly placed nicks (or 'stitches'), with the addition of two more (which could be 'regular' nicks). This space for a setting is surrounded by a flat border, which is incised with a band filled with transverse hatching. The rounded moulding at what would have been the junction with the hoop can be seen (from the Dublin brooch) to be the lower jaw of an animal head in profile; there are traces of hatching (as on the reverse). On the reverse of the terminal are incised two concentric circles, with a centre-point; the back of the animal's jaw is filled with a transversely hatched field, and there is the beginning of another hatched field at the other cut end, from where the plate would have developed to link it to the other terminal. There are three definite nicks on the outer edge, and two more on a cut edge.

Nicks: 7 (5+2?). L 2.5; D (terminal) 2.3; H 0.6–0.3cm. Wt 12.8g.

Johansen 1973, 115, fig. 34,b (upper).

3:5 Silver bossed brooch fragment (MME: 1859,0511.5)

Brooch fragment with incised ornament, broken at both ends (**Pl. 64**). This is the junction between the hoop and right-hand terminal of a bossed penannular brooch of Johansen's (1973) 'subgroup A', with a plain hoop of plano-convex section (0.8 x 0.3cm) and a flat terminal plate; the reverse is flat and plain. The ornament is in the characteristic form of a highly stylised, open-jawed, animal head in profile, with its eye positioned along the outer edge; the individual fields of ornament are filled with transverse hatching, except for the central lentoid detail which contains four dots. It is, however, differentiated from all other examples of this sub-group, except for a Cuerdale fragment (**1:1,005**), by having a cross-filled circle in place of the more usual basal spiral. The space within the jaws is filled with a beaded triquetra.



Cat. Figure 34 Silver bossed penannular brooch (**3:2**), from the Goldsborough hoard: decoration on the reverse

Nicks: 1 (on the outer edge). L 4.1; T (terminal) 0.15cm. Wt 8.3g.

Johansen 1973, 120, A17f, fig. 48,f.

3:6 Silver rod fragment (MME: 1859,0511.6)

Bent back on itself and severed at both ends (**Pl. 64**), this massive rod of circular section (D 0.9cm) has been hammered down at one end to form a narrower rod (D 0.5cm); this has, in turn, been further hammered to form a lozenge-sectioned rod (0.5 x 0.5cm). It therefore represents manufacturing 'waste', presumably from the production of a piece of 'ring-money'.

Nicks: 1 (on an angle). L (bent) 6.1; D 0.9–0.5cm. Wt 34.8g.

3:7 Silver lozenge-rod arm-ring fragment (MME: 1859,0511.7)

Arm-ring fragment consisting of a curved rod, severed at both ends from the mid-part of the hoop of what was most probably a piece of plain 'ring-money' (**Pl. 64**). The rod is of rectangular section, with flattened angles (octagonal), and tapers to one end, which is slightly distorted (0.7 x 0.6cm).

Nicks: 2 (on adjacent angles). L 3.6; W 0.75; H 0.75cm. Wt 11.4g.

3:8 Silver penannular lozenge-rod arm-ring terminal (MME: 1859,0511.8)

Terminal from a 'ring-money' type arm-ring, with stamped decoration (**Pl. 64**). It is formed from a square-sectioned rod (0.6 x 0.6cm), which tapers to a blunt terminal with flat end. The decoration consists of a row of plain 'hour-glass' stamping (in the form of conjoined lozenges) along its upper, lower and outer angles (**Fig. 8.2,66**). It is somewhat crudely hammered, but in good condition.

Nicks: 2 (on outer angle). L 4.6; W 0.9; H 0.9cm. Wt 22.3g.

3:9 Silver arm-ring fragment (MME: 1859,0511.9)

Fragment of Hiberno-Scandinavian broad-band arm-ring, with stamped decoration (**Pl. 64**), severed at both ends from near the central part of the ring, for it tapers towards one end (1.4–1.1cm) away from the expanded mid-part, which was decorated with a diagonal cross, combined with ring-and-dot stamping. The main ornament consists of a row of vertical transverse impressions from a plain (wide) bar-stamp (**Fig. 8.1,7**), between two of which at the broader end is a pair of large ring-and-dots (**Fig. 8.3,46**), with next along a third impression having been cut through; this would have been located between the arms of the central diagonal cross, a small part of which is present above this ring, formed by a plain (narrow) bar-stamp.

Nicks: 5 (4 nicks on the inner angles, and one large slice from an outer angle). L 3.0; W 0.4; H 1.4cm. Wt 15.4g.

3:10 Silver arm-ring fragment (MME: 1859,0511.10)

Fragment of Hiberno-Scandinavian broad-band arm-ring, with stamped decoration (**Pl. 64**), severed at one end and broken at the other, presumably from near one terminal given its narrow, but even height. The ornament consists of a row of vertical transverse impressions from a billeted bar-stamp (**Fig. 8.1,22**). It is heavily nicked for its small size.

Nicks: 9 (including a pair on the cut edge). L 1.5; W 0.3; H 1.3cm. Wt 5.0g.

3:11 Silver arm-ring fragment (MME: 1859,0511.11)

Fragment of Hiberno-Scandinavian broad-band arm-ring, with stamped decoration (**Pl. 64**), consisting of the expanded mid-part of the ring, tapering to both ends, one of which is sheared across from the front, and the other cut twice, at an angle, from the back. The ornament consists of a diagonal cross, with the addition of a central vertical line, between a continuous border along the top and bottom; these rows of stamping are all formed of individual impressions from a plain 'hour-glass' stamp (**Fig. 8.2,85**). There is additional stamping of the same kind between the arms of the diagonal cross. It is heavily nicked.

Nicks: 10 (including a pair each on both cut ends). L 2.4; W 0.2; H 3.1cm. Wt 13.0g.

(b) Rector and Churchwardens of St Mary's Church, Goldsborough (in Ripon Cathedral Treasury)

3:12 Silver pendant

Pendant in the form of a plain cross (**Pl. 65; Cat. Fig. 35**), with irregularly shaped arms of rectangular section, of which the longest is hammered on both sides; this expanded terminal, also irregular in outline, has a central circular perforation to form its suspension loop.

Nicks: 0. L 2.5; W 1.5; T 0.25cm. Wt 2.5g.

Wilson 1957; Graham-Campbell 1980, 156, no. 524; Roesdahl *et al.* (eds) 1981, 88, F3; Staecker 1999, 101, 555, no. 7, fig. 37; Jensen 2010, 75, no. 261.

(c) Society of Antiquaries of London

Ms. 700/III/6 (pencil sketch by Albert Way)

3:13 Silver oblong ingot terminal fragment

Lost: Albert Way's pencil sketch of the Goldsborough hoard includes two views of a narrow oblong ingot, with a rounded terminal and a seemingly broken end (**Pl. 65**).

Nicks: ? L *c.* 9.0; W *c.* 1.2; H *c.* 0.8cm. Wt ?

3:14 Silver oblong ingot terminal fragment

Lost: Way's sketch includes, alongside ingot **3:13**, two views of a second oblong ingot, which is somewhat thicker and broader in section, with a rounded terminal, the other end being cleanly cut from on top (**Pl. 65**).

Nicks: ? L *c.* 3.5; W *c.* 1.8; H *c.* 1.0cm. Wt ?

At the meeting of the Society of Antiquaries of London held on 4 February 1859:

> Mr. W.S. Vaux, F.S.A., President of the Numismatic Society, read a short account of certain silver coins, brought for examination by the Hon. and Rev. J. Lascelles, Rector of Goldsborough, Yorkshire. They had been found a short time previously, as Mr. Lascelles stated, in digging a drain near the church at that place, and at a depth of about three feet. With the coins were found deposited a considerable number of fragments of silver ornaments, brooches, armlets, &c., and portions of small ingots or rudely shaped objects of silver, the whole having been placed in a small leaden chest. These ornaments and silver ingots, which were exhibited to the meeting, precisely resembled the objects discovered in 1840, in Cuerdale near Preston, as described by Mr. Hawkins in this Journal.

This account of the circumstances of the hoard's discovery is curiously at odds with that recorded a couple of months later by Vaux himself, when he read a paper to the Numismatic Society (on 28 April 1859), giving 'An account of a find of coins in the parish of Goldborough [*sic*], Yorkshire' (1861, 65):

> It appears that, in the autumn of 1858, some workmen were digging the foundations for the rebuilding the wall of the churchyard at Goldborough, when they came upon an earthenware pot, which was immediately broken into fragments, and was found to contain a number of pieces of silver, such as ingots, several portions of silver bracelets, one very large and perfect silver buckle, and a considerable number of coins.

The hoard has for long been considered to have contained thirty-seven coins, dating its deposition to *c.* 920 (Blackburn and Pagan 1986, no. 101). This is the total given by Vaux in his original publication (1861), despite Thompson's total of thirty-nine (1956, no. 175). These thirty-seven consist of thirty-five Kufic dirhams and two Anglo-Saxon coins, one of which is a cut fragment of a rare 'offering-piece' of Alfred and the other a penny of Edward the Elder. Archibald has suggested that the condition of the Alfred 'offering-piece' is such that it had been sent to the Patriarch of Jerusalem (as intended) and had then travelled back from Palestine by way of Russia and the Baltic, in the company of the Kufic coins (1990, 18–20, pl. 3,33). However, two additional coins (making a total of thirty-nine) are here attributed to the hoard by Williams, who also redates its deposition to *c.* 925 (see below, and Appendix 5).

The pendant (**3:12**), which was 'hitherto unknown', was sent for study at the British Museum in 1957, by the then rector of Goldsborough, when it was published by David Wilson, who reported that (1957, 72):

> An inscribed silver plate in the case in which the cross is now kept associates it with the hoard found in 1858 in the churchyard at Goldsborough and now in the British Museum.

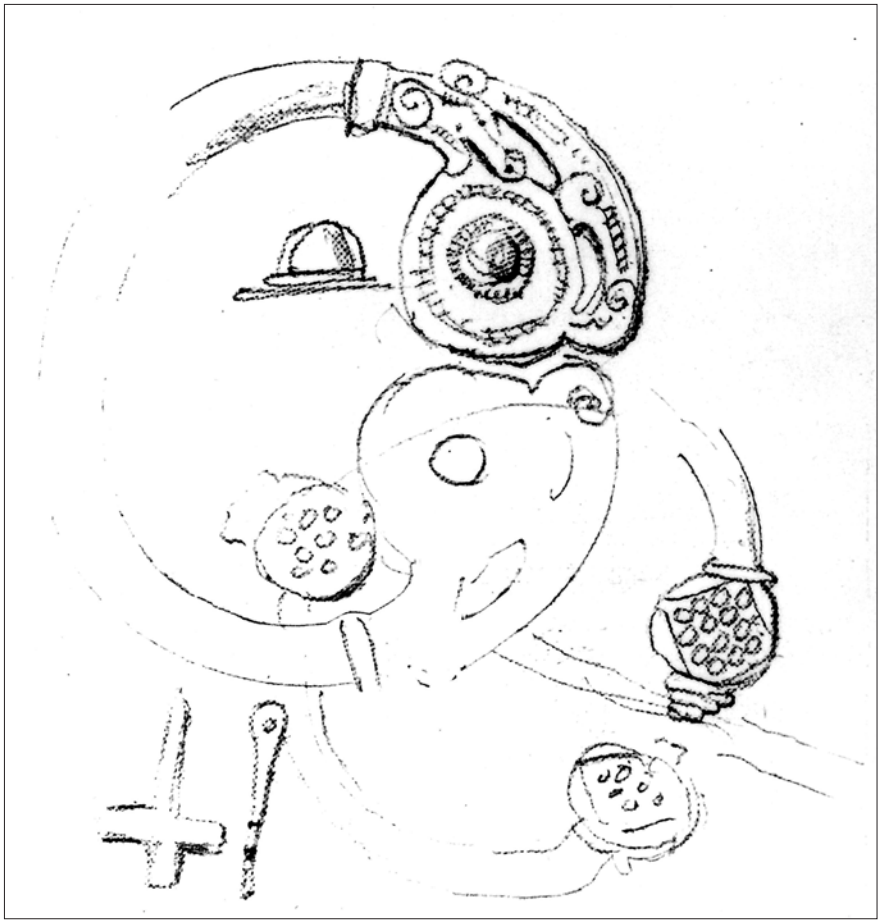
This attribution is confirmed by the (then unknown) sketches made by Albert Way, in

February 1859, when the hoard was exhibited to the Society of Antiquaries of London. These pencil drawings (**Cat. Fig. 35** and **Pl. 65**), on either side of a single sheet of paper preserved in the library of the Society of Antiquaries (MS. 700/III/6), include sketches and rubbings of all but two pieces of the extant material (**3:3** and **7**), as well as of two (lost) ingot fragments (**3:13–14**), thus substantiating Vaux's statement (above) that the hoard had included 'portions of small ingots or rudely shaped objects of silver'. The combined weight of the surviving bullion from the Goldsborough hoard is 323.9g.

The earliest illustration of the non-numismatic material from Goldsborough in the British Museum is the photograph published by Reginald Smith in *VCH: Yorkshire*, II (1912), pl. i, fig. 5, as reproduced subsequently in the *BM Anglo-Saxon Guide* (1923, fig. 133), by Bjørn and Shetelig (1940, fig. 7), and by Graham-Campbell (1992b, fig. 9.5); two other group photographs, both also containing a selection of coins, have been published by Hall (1976, fig. 9) and, in colour, by Philpott (1990, 45).

The only objects, other than the pendant (Wilson 1957; Graham-Campbell 1980, no. 524), to have been discussed in detail in print are the bossed brooch fragments (as referenced below in Smith 1914; Johansen 1973; and Graham-Campbell 1975); two of the brooch fragments (**3:2** and **5**), originally published by Smith (1914, pl. xxviii, nos 2–3), were chosen for illustration by Thompson (1956, pl. xiv,1 and 3), but together with a Cuerdale fragment (*ibid.*, pl. xiv,2) which is wrongly captioned by him as also being from Goldsborough (= Smith 1914, pl. xxviii, no. 4). The complete 'thistle-brooch' (**3:1**) has been considered by Graham-Campbell (1983b, 310–12) and is illustrated in Roesdahl *et al.* (eds) 1981, no. E15i.

One dirham (Lowick 1980, no. 347) and the pendant formed part of *The Vikings* exhibition in 1980 (Graham-Campbell and Kidd 1980, no. 87; Graham-Campbell 1980, no. 524), and the latter was reunited, the following year, with the rest of the extant non-numismatic material from the hoard, together with a selection of coins, for *The Vikings in England* (Roesdahl *et al.* (eds) 1981, nos E15 and F3), as again in 1990 for *A Silver Saga*, together with four coins and Way's drawing of the missing ingots (Philpott 1990, 45, 67, 81). In 2000, the British Museum displayed all the traceable coins, together with the rest of the hoard (including the pendant), in *Paid in Burnt Silver: Wealth and Power in the Viking Age* (cf. Williams 2000).



Cat. Figure 35 Drawing by Albert Way of part of the Goldsborough hoard (**3**); see also **Plate 65** (Society of Antiquaries of London)

The coins from Goldsborough

Gareth Williams

Discussion of the Goldsborough hoard has shown some confusion over its precise numismatic contents, which goes back to discrepancies between the three extant early records of the coins. These are: (i) the (1859) summary in the *Archaeological Journal* (hereafter *AJ*) of the paper read by W.S.W. Vaux to the Archaeological Institute on 4 February 1859; (ii) the more detailed publication of the coins in the *Numismatic Chronicle* (hereafter *NC*) by Vaux (1861), based on a paper presented by him to the Numismatic Society on 28 April 1859; and (iii) two British Museum registers from the same year.

Thirty-six Anglo-Saxon (1) and Islamic (35) coins were registered together with the non-numismatic material, in May 1859, as Antiquities (1859,05-11,12–47); two further Anglo-Saxon coins were subsequently registered separately in the Medal Room (1859,07-26,1–2), with a third entry (1859,07-26,3) being only a pencil note, reading 'Cufic Oriental Vaux', which was clearly intended as a temporary measure, with the work on the coins left incomplete. Vaux was obliged to resign in 1870, following health problems, and departed abruptly, leaving a number of coins unlabelled on his desk. These were subsequently given tickets marked 'Found in Mr Vaux's table' – and some of the Goldsborough coins were among them. Of the coins listed in the registers, only fourteen can be traced today with certainty, plus two which can probably be identified as coming from the hoard, and two more which are possible (but for which identification is more problematic).

It is also a matter of uncertainty as to whether the coins acquired by the Museum represent all those from the hoard, since some of the non-numismatic material was clearly not purchased (as described, above); indeed, Vaux's phrasing in both the published accounts implies his knowledge of a larger number of objects – and perhaps, likewise, of a larger number of coins.

In *AJ*, Vaux provided only a brief summary of the coins, without a total, as follows:

> Saxon coins; one of Ælfred, and one of Eadweard the Elder. Cufic coins, of the Samanian Dynasty;– of Nasr ben Ahmed, the first Prince, one struck at Samarcand, A.D. 889; of Ismáil ben Ahmed, the second prince, four struck a Al Shásh in the years A.D. 893, 898, 899, 903 and three struck at Samarcand in the years A.D. 895, 897, 899; also several other coins whereon the place of mintage and the date are not completely legible, but which undoubtedly belong to this ruler. Of Ahmed ben Ismáil, the third Prince, two coins struck in A.D. 910; the name of the place of mintage effaced. Of Nasr ben Ahmed, the fourth Prince, one coin, date and place of mintage effaced, but certainly to be attributed to this Prince and not the first Nasr ben Ahmed, because the Khalifah's name Al Moktader Billah is quite legible on it.

In his *NC* version, Vaux provided a fuller listing, including a total of thirty-seven coins. Two of these were Anglo-Saxon, including a cut half of an Alfred *elimosina* offering piece, and a penny of Edward the Elder. He also listed thirty-five 'Oriental' coins, seven of which were 'hopelessly illegible', but the other twenty-eight were listed in varying amounts of detail, depending on legibility, by dynasty, ruler, date and mint. Although the overall list corresponds with his total, matters are further confused by the inclusion of two nos 13 and two nos 16, so that the numbered list appears to go up only to twenty-six (together with the seven un-numbered illegible coins). Without reproducing Vaux's listing in full, it is worth noting that several of the dates disagree with those given in the earlier *AJ* version, and that the first Nasr ben Ahmed has disappeared, probably (judging from the date) having been re-attributed to Al Motámed ala Allah, as one of nine 'Abbaside' coins, none of which is mentioned as such in the *AJ*. As the most detailed contemporary publication of the Goldsborough coins, the *NC* version has informed all subsequent discussion of the numismatic component of the hoard.

It is, however, the case that comparison of the *NC* list with the registers shows further differences in the detail of the Islamic coins, but more importantly it reveals that two coins appear to be altogether missing from the *NC* account. On of these is another Islamic coin, possibly the one for which the pencilled 'Cufic Oriental' holding entry was created in the Medal Room register (1859,07-26,3), although the presence in all three lists of 'illegible' coins makes it difficult to establish this for certain (cf. Appendix 5). It is also clear from the Antiquities register that many of the Islamic coins were fragmentary, a fact which Vaux did not see fit to mention in print, but which is typical of Islamic coins in Danelaw hoards, indicating that they had already made the transition from coins into hack-silver. The other missing coin was a second silver penny of Edward the Elder (1859,05-11,12), of the moneyer Æðelulf (type HP 1), attributed to a Wessex mint in the middle part of his reign (Blunt *et al.* 1989, 60).

The total of recorded coins for the Goldsborough hoard is thus thirty-nine, rather than thirty-seven. Of these, the three Anglo-Saxon coins are all extant, but at most fifteen of the Islamic coins can now be traced in the Museum's collection. It is unclear when the remainder disappeared, but the presence of some of the surviving pieces among the coins 'Found in Mr Vaux's table' suggests that it is likely that they were lost at that time. A complete listing of all thirty-nine coins is provided below, as Appendix 5, based on examination of the surviving coins and the details provided in both the registers and Vaux's *NC* article.

Dating

As is usual with Danelaw hoards of this period, the Goldsborough coins cover a lengthy date-range, but the Islamic and Anglo-Saxon coins together provide a consistent *terminus post quem* (*tpq*) for their deposition. The latest Islamic coin is a silver dirham in the names of Nasr b. Ahmed II (AD 913–43) and Al Muqtadir Billah (AD 908–32). The date on this coin is illegible, but the combination of rulers places it in the period 913–32. The latest Anglo-Saxon coin in the hoard is the Edward the Elder penny published by Vaux, which is of type HT1, with the moneyer's name EDELLARF (R inverted). This is a blundered inscription, and the style is that of the East Midlands, from the latter part of the reign, suggesting that this is an irregular issue from somewhere within the newly-conquered southern Danelaw. Stewart Lyon has suggested that all of the coinage in this group falls into the late period of the coinage, after *c.* 915, and that the bulk of the minting in Edward's name in East Mercia took place in sub-phase Late II, from *c.* 920 (Blunt *et al.* 1989, 24, 52–4).

Vaux did not suggest a date for the deposition of the Goldsborough hoard, merely noting 925 as a *terminus ante quem* for the issue of Edward the Elder and the date range of 913–32 for the latest dirham. A deposition date of *c.* 925 was, however, proposed by Smith (in *VCH*, 1912, 101–2; 1923, 108), to be followed by Bjørn and Shetelig (1940, 31), although this was subsequently broadened to 925–30 by Thompson (1956, 64; cf. Blunt and Dolley 1959, 247). Dolley (cited without bibliographical reference in Wilson 1957, 72) amended this date to *c.* 920, on the basis that only one of the Kufic coins was as late as 913, and the date seemed appropriate at that time for the published coin of Edward the Elder. This date has been accepted in most recent published references to the hoard, although Lowick (1980, 99) opted for the bracket *c.* 920–30, but comparison with other hoards suggests that Dolley's date is too early, for a number of reasons.

Firstly, as discussed above, on Lyon's classification the latest Anglo-Saxon coin could post-date 920. Secondly, unlike most of the northern hoards, Goldsborough contains no coins of the northern Danelaw, and Graham-Campbell (1992, 112; 1993a, 83) has suggested that the entire hoard may have been assembled in Ireland. If so, the later of the Edward pennies had to travel to Ireland and then to Northumbria, before being deposited, and time needs to be allowed for this. Furthermore, the value of the Edward coin for dating, for anything more than a *tpq*, is limited in the context of the unregulated Viking silver economy rather than in the well-controlled economy of Anglo-Saxon England.

Finally, 913 is not a firm date for the latest Islamic coin in the hoard. It is the earliest possible date for a coin that could have been struck at any time between 913 and 932, and the hoard could theoretically be dated as late as the 930s on the basis of that coin. It is true that there is only this one coin dated that late, but there are two others from 910–11. Comparison with other Viking hoards of the mid-920s from England and Wales suggests that a gap of ten to fifteen years between the issue of the latest Islamic coin in the hoard and its deposition is typical, in contrast to the late ninth-century hoards, which typically have a shorter gap (Lowick 1976; Naismith 2005; Blackburn 2006, Ager and Williams 2007; Williams 2008b). This would again suggest that 920 is too early a date. On the other hand, while the latest coin could conceivably be as late as 932, that would be too much later than the rest to be credible. It seems likely, therefore, that the hoard was deposited some time in the mid-920s.

In the absence of any firm dates, a revision to c. 925 seems the safest option, allowing for a margin of a couple of years in either direction. This places the Goldsborough hoard firmly in the context of a group of hoards dating from the mid-920s (see above, p. 69).

Archaeological Journal, xvi (1859), 197–8; *Albert Way manuscripts* (Society of Antiquaries of London: MS. 700/III/6, Album 2, no. 113); Vaux 1861; Smith in *VCH: Yorkshire*, II (1912), 101–2, pl. I and fig. 5; Smith 1914, 242, 249, pl. xxviii, nos 2–3; *BM Anglo-Saxon Guide* (1923), 108, fig. 133; Bjørn and Shetelig 1940, 30–1, fig. 7; Thompson 1956, 64, no. 175, pl. xiv,1–3; Wilson 1957; Johansen 1973, 120, 121, nos A17f and D2, figs 12a, 17a, 34b (upper), 48f and 55; Graham-Campbell 1975, 33, 34, 35, pl. vi,b; Hall 1976, 18, fig. 9; Graham-Campbell 1980, 156, no. 524; Graham-Campbell and Kidd 1980, 194, no. 87; Roesdahl *et al.* (eds) 1981, 75, 88, nos E15 and F3; Graham-Campbell 1983b, 310–12, 320; Blackburn and Pagan 1986, no. 101; Philpott 1990, 45 (colour pl.), 67; Graham-Campbell 1992b, 112, fig. 9.5; 1993a, 83; Wilson 1998; Graham-Campbell 2001b, 213, 217–18, no. 2; Johnson 2001, figs 4 and 8 (caption: fig. 7).

4 Halton Moor, near Lancaster, Lancs

Mixed silver and gold hoard (part lost), found in 1815; deposited *c.* 1025.
In (a) the British Museum; and (b) the National Museum, Copenhagen.

(a) The British Museum

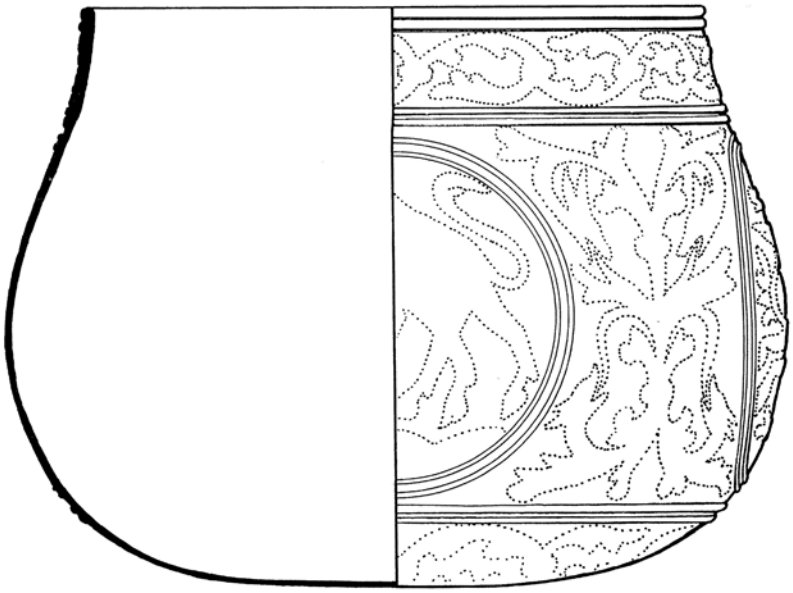
MME: OA 3393 (gold disc). Acquired in 1815.
MME: AF 541 (cup) and AF 542 (neck-ring).
Franks Bequest, 1897.

4:1 Silver-gilt cup (MME: AF 541)

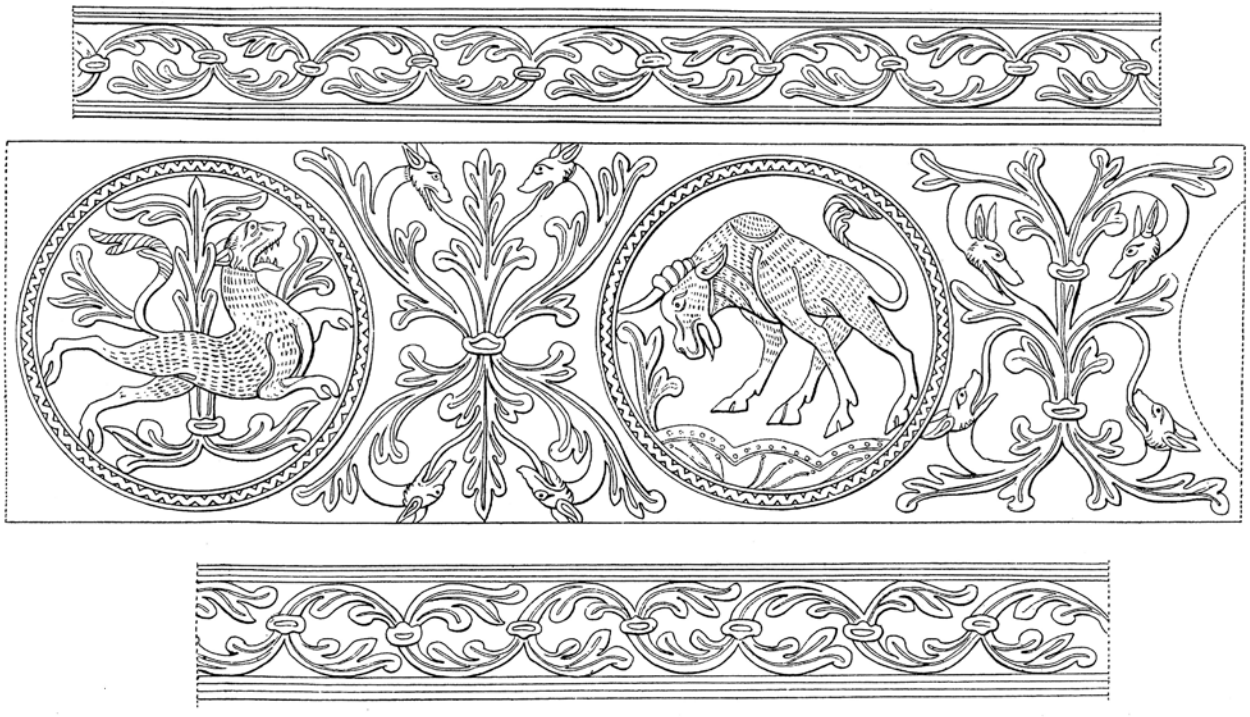
Silver cup of squat bulging form (**Cat. Figs 36–7** and **Pl. 66**); description after Tonnochy (1928, 38–9, no. 99).

The ornament consists of chased designs, with medallions, each containing an animal figure, separated by conventional [acanthus-derived] foliate patterns. The medallions are four in number bordered by bands enclosing a wavy pattern: two contain the figure of a lion passant to right with open mouth and upraised forked tail, intersecting a conventional plant, the foliage of which appears above and below the animal, at its breast and under the tail: alternating with these are the other two medallions each showing the figure of an ox [*or* unicorn: cf. Wamers above, p. 133], with humped back and forked tail, bending towards a piece of conventional foliage on the undulating ground. The four interspaces are each occupied by a formal plant with radiating branches from which issue four dog-like heads near the extremities, biting foliage: the design of each plant is identical with that opposite it, but differs slightly from those nearest to it. Round the lip and the bottom are bands of conventional leaf-scrolls, on which, as on the plants in the middle zone, are transverse collars. The background and interior are gilt, traces of gilding being also found on the ornament; on one side part of the rim and the upper part of the body are wanting; the bowl is somewhat battered and worn near the bottom. There is no foot or cover.

Given that the (now ovoid) rim is cracked and in part repaired, the number of nicks is uncertain, but there is certainly one on its inside edge, with a group of four on the outside.



Cat. Figure 36 Section through the silver-gilt cup (**4:1**), from the Halton Moor hoard, Lancs. Scale 4:5



Cat. Figure 37 Ornament on the Halton Moor cup (**4:1**): extended drawing by James Basire (after Combe). Scale 4:5

Nicks: 5. H 9.4; D (rim) 10.1–10.9cm. Wt 307.5g.

For discussion, see Wamers (above, pp. 133–5).

Combe 1817; *VCH: Lancashire*, I (1906), 259, 260–1 and figs; Dalton 1909, 359; Jackson 1911, 64–5, figs 91–2; Dalton 1911, 106, note 1; *BM Anglo-Saxon Guide* (1923), 108–10, fig. 134; Watts 1924, 15; Read and Tonnochy 1928, 38–41, no. 99, figs and pl. lvi, left; Bjørn and Shetelig 1940, 45–6, fig. 13; Holmqvist 1942, 190–1, fig. 15; Talbot-Rice 1952, 231; Taylor 1956, 22; Thompson 1956, 66–7, no. 181, pl. xv; Wilson 1960, 154f., fig. 10, 167f., fig. 20; Skubiszewski 1965, 33f., fig. 17, 230f., fig. 175; Haseloff 1977, 136–7; Wamers 1986, 40; Philpott 1990, 64, colour; Wamers 1991a, 97–117, figs 1–4; Edwards 1992, 55, no. 31; 1998, 49–51, fig. 27; Williams and Ager 2010, 15–17, fig. 7; Ager 2011, 136, fig. 7.

4:2 Silver twisted-rod neck-ring (MME: AF 542)

Neck-ring formed from twelve tapered rods (max. D 0.2cm), twisted into six pairs, which have then been twisted together; one terminal has broken off and been repaired with solder, with some of the rods, including one pair, also being broken in places (**Pl. 67**). The early nineteenth-century engraving by Basire is an 'improvement' in that it does not show either this repair or the broken pair of rods; the form of the terminals is, however, correct and the disposition of the stamping reasonably accurate (**Fig. 5.4**). The terminal plates are triangular in form, with hooked ends, one being tightly scrolled. Both have grooved borders containing two rows of triangular stamping, facing inwards; the elongated triangular stamp contains three pellets (**Fig. 8.2,20**). This stamping is systematically, if poorly, executed, with over-stamping and miss-striking so that some impressions have barely registered (total: fifty-four, with twenty-seven on both terminals, in two rows of twelve and fifteen each). The condition of the rods, with the breaks and surface cracking, makes it difficult to arrive at an exact total for the nicking and pecking, which has no apparent pattern, but there would appear to be some twenty-six such interventions (fourteen on one terminal, eight on the other, and four on the hoop).

Nicks: 26. D 17.5cm. Wt 192.4g.

4:3 Gold disc (MME: OA 3393)

Of thin sheet, struck with a die on the reverse so that the decoration is in relief (**Cat. Fig. 38** and **Pl. 66**). It is decorated with a crude human head in profile, facing left and enclosed by a border of thirty-five repoussé pellets between two concentric ridges, with a plain flange (**Fig. 6.19**). The single eye is shown simply by a pellet within a ring, above which is a C-shaped ridge for the ear. The hair is indicated by a series of short, vertical, or slightly oblique, ridges ending in a hollow triangle at the back of the head, above a long tongue shape, with a midrib, behind the ear; a hooked line extends from the rear corner of the triangle between rows of small pellets, four more of which are placed under the chin. The border is pierced twice from the front, on either side of the head, as were the other gold discs from the hoard (cf. **4:4** and **5–8**). There is slight damage to one edge, which might be construed as a nick, but despite being so slight the disc is otherwise in excellent condition.

Nicks: 1? D 2.3cm. Wt 1.2g.

Cat. Figure 38 Gold disc (**4:3**), from the Halton Moor hoard, with repoussé decoration (Jim Farrant)

(b) The National Museum, Copenhagen

The Department of Danish Prehistory: Inv. No. 17249; purchased through J.L.E. Curt, at the sale of the late Rev. T.F. Dymock's collection (Sotheby's, 1 June 1858, lot 483).

4:4 Gold disc

Struck from the same die as **4:3** (on the evidence of enlarged photographs), although the detail is less precise (**Pl. 66**); it has a similar size flange and is likewise perforated twice, from the front, in the same two places. There is slight damage to the flange.

Nicks: ? D 2.19cm. Wt 1.02g.

Axboe *et al*. 1986, 210–11, no. 359, figs 137–8; Edwards 1997; for discussion, see Barry Ager (above, pp. 127–8).

(c) Lost

4:5–8 Four gold discs

These four missing discs are presumed to have been struck from the same die as **4:3–4**. No further details.

This mixed hoard, consisting of a silver-gilt Carolingian cup containing 860 coins, six repoussé gold discs, or 'foils', and a neck-ring of silver, was found on 12 February 1815 by an unknown 'farmer' or 'freeholder of the manor' (Combe 1815), while ploughing one of the areas of Halton Moor, in the Lune Valley, recently enclosed under the terms of the Act of 1797 (Edwards 1992, 54, no. 31). Its discovery was reported in the *Preston Chronicle*, on 25 February 1815 (the article is quoted in full in Edwards 1998, 47):

> *Antiquities*. – A farmer, whilst ploughing in the neighbourhood of Lancaster, lately discovered, a little below the surface of the ground, a silver vessel, containing about 860 small silver coins, and some other antiques. The coins are chiefly of the reign of *Canute* the *Great*, and may therefore be supposed to have lain in the earth about 800 years…The vessel itself is of the shape of a common iron sauce-pan…it was cased with lead, but is without lid, handle or inscription; the sides are rudely engraved… It contained, besides the coins, small escutcheons or plates of gold, with a raised figure upon them, resembling a dolphin or fish of some kind; also a collar for the neck, made of silver wire, curiously twisted together…The land where these relics were found has been enclosed about three years.

As recounted by B.J.N. Edwards (1997, 11; with references incorporated):

> The items in the discovery were rapidly dispersed. They came into the hands of a Lancaster jeweller named Muncaster and he sent the cup, the neck ring, 400 of the coins and two of the gold foils to a man named [John] Walker in London. He is stated by Michael Jones, writing to T.D. Whitaker (1823, 242), to have lived in Bedford Square and to have been related to 'Mr. Ford of Lancaster'. The remaining 460 coins and four gold foils were distributed locally. A few coins came into the hands of local collectors and the ownership of nine of these has been established by Penney (1978). We can add to this information the fact that one of the gold foils was in Whitaker's possession. He believed it to show 'the rude figure of a lion' (1823, 242). We can only presume that most of the remainder of the hoard was melted down.
>
> Of the objects sent to London, eighty-five of the coins were 'taken by the Trustees of the British Museum as also one of the gold pieces' (Whitaker 1823, 242). The cup and the neck ring were later acquired by (Sir) A.W. Franks and came eventually to the British Museum as part of the Franks Bequest (1897). The remaining coins disappeared from view, though some of them may have survived as unprovenanced collectors' pieces … No record of the fate of the other gold foil is known.

It was through John Walker that the 'Silver Cup and a Torques' were exhibited to the Society of Antiquaries of London, on 16 March 1815. They were subsequently described and discussed by Taylor Combe, Keeper of Antiquities at the British Museum, in a letter (dated 4 April 1815), to the Earl of Aberdeen, as president of the Society; the two plates by James Basire, which accompany its publication (1817, pls xvii and xviii), are curiously dated 'January 1, 1815', given that the hoard was only discovered in February of that year. The coins sent to London were pennies of Cnut, predominantly minted at York, together with twenty-one described as 'Danish'; the nine coins located by Stephen Penney (1978) are all from the York mint. The hoard's date of deposition has been estimated as *c*. 1025 (Blackburn and Pagan 1986, no. 212).

It is not known when, or from whom, Franks purchased the Halton Moor cup and neck-ring, although information about them naturally remained current, given Combe's publication, as in the case of the discussion of the neck-ring by S. Birch, with Basire's engravings reproduced in part, in his paper, 'On the torc of the Celts' (1846, 28–9). The neck-ring and Carolingian cup together formed part of the Franks Bequest (1897), although the latter, at any rate, had previously been on loan to the Museum because the (1896) *Guide to the Exhibition Galleries of the British Museum (Bloomsbury)*, 221, records that 'a silver bowl found in Lancashire, full of

coins of Canute', formed part of a display of Franks' private collection of drinking vessels in the 'Gold Ornament Room' (Caygill 1997, 183, note 97). The cup was included in the *Catalogue of the Silver Plate, Mediaeval and Later, bequeathed to the British Museum by Sir Augustus Wollaston Franks, K.C.B.* (Read and Tonnochy 1928, no. 99, where described and discussed by A.B. Tonnochy).

Edwards, through correspondence with Morten Axboe of the National Museum of Denmark in 1997, discovered the existence in Copenhagen of an unprovenanced gold foil with repoussé decoration (Inv. No. 17249; Axboe *et al.* 1986, no. 359), very similar to the disc in the British Museum. This had been purchased for the Royal Collection of Coins and Medals, Copenhagen, by the London coin dealer, J.L.E. Curt, as part of two lots (nos 483–4), at the sale of the Rev. Thomas Frederick Dymock's collection, following his death in 1858 (Sotheby's, 1 June, 1858, lot 483):

> Early Danish [coins], some Bracteates, one in gold, *rare*, and some scarce Pennies, *some labelled* 13.

As concluded by Edwards (1997, 12), partly on the basis of the known weights of the two gold discs that reached London, 'the case for identifying the Copenhagen foil with the second of the two sent to London in 1815 [is] almost unassailable'.

Comparison of enlarged photographs of both discs shows that the visible detail of the decoration matches exactly and it may be concluded that they were struck from the same die.

It is necessary to point out that, during the nineteenth and twentieth centuries, various errors crept into the literature concerning the contents of this hoard, beginning with Whitaker's statement (1823, 242) that there had been 1,000 coins. Thompson (1956, no. 181) believed there to have been only two gold foils, but more than one silver 'torque', and Hinton listed the silver neck-ring in his 'armlet size' category (1978, no. 7), whilst imagining the existence of an armlet-sized gold ring (no. 8). The recent publications by Edwards cited above (1992; 1997; 1998) have, however, served to clarify the sources concerning the nature of this find.

The neck-ring formed part of the British Museum's special exhibition of *Jewellery through 7000 Years* (Tait (ed.) 1976, no. 210), and the cup, neck-ring and gold foil, together with four coins, were included in *A Silver Saga* (Philpott 1990, 64, 67, 80).

Preston Chronicle, 25 February 1815; *Society of Antiquaries of London: Minutes Book*, vol. XXXIII, 574; Combe 1817; Whitaker 1823, II, 242–3; Birch 1846, 28–9 and figs; Sotheby's Sale Catalogue (1–4 June 1858), lot 483; *VCH: Lancashire*, I (1906), 259, 260–1 and figs; *BM Anglo-Saxon Guide* (1923), 108–10, fig. 134; Bjørn and Shetelig 1940, 45–6, figs 13–14; Thompson 1956, 66–7, no. 181, pl. xv; Tait (ed.) 1976, 138–9, no. 210; Tonnochy 1928, 38–41, no. 99, pl. lvi and figs; Hinton 1978, 156, no. 7; Penney 1978; Axboe *et al.* 1986, no. 359; Blackburn and Pagan 1986, no. 212; Tait (ed.) 1986, 111, fig. 250; Philpott 1990, 64 (colour pl.), 67; Edwards 1992, 54–5, no. 31; 1997; 1998, 47–51, figs 26–7 (see also Wamers above, pp. 133–5).

5 Lark Hill, near Worcester, Worcs

Mixed silver hoard (part lost), found in 1854; deposited *c*. 1175.
MME: 1854,0820.6. Purchased from Peter Foxwell, in August 1854.

Silver annular twisted-rod finger-ring (MME: 1854,0820.6)

Finger-ring formed from three rods twisted together, tapering slightly (0.3–0.25cm) to their ends, which are hammered together into a plain narrow band of rectangular section (**Pl. 82**). In good condition, with no ancient nicks.

Nicks: o. D 2.8cm. Wt 8.6g.

This is one of six (or seven) silver finger-rings found in 1854, with a small silver annular brooch, wrapped in cloth (MME: 1854,0820.1–8; the brooch and cloth fragments are now missing), at Lark Hill near Worcester, together with over 200 coins, mostly of Henry II, but including some Scottish and Continental, deposited *c*. 1175. The only known account of the discovery of the hoard is contained in a letter, dated 14 June 1854, from Jabez Allies, FSA, of Cheltenham, to John Yonge Akerman, then Secretary of the Society of Antiquaries of London. Akerman included an extract from this communication in the paper read by him, on the subject of this hoard from 'near Worcester', at the meeting of the Society held on 23 November 1854 (Akerman 1855). The most relevant passages from this letter (*ibid*., 200) relate that:

> There has been a find of about 215 silver pennies, also four rings set with gems, a ring twisted like a wreath, a ring with crosses on it, and a gimmal ring (at least one with a hand like a gimmal ring), and a brooch double-wreathed…
>
> All these coins and articles are silver; they were found near Lark Hill, within a mile of Worcester, upon making a drain, and were all in a lump together, and probably had been wrapped in a coarse piece of cloth, as there were fragments of the kind about them.
>
> …I had a very hurried view of the batch at the finder's yesterday, but if you think the matter worth further investigation, I will send you either further sketches, or try and get you sight of the relics…

At Akerman's request, Allies then 'obtained the whole bulk of the coins and rings, and forwarded them for my inspection. They have since been ceded to the British Museum by the finder' (1855, 200–1), who may thus be identified with the 'Peter Foxwell' named in the register as the vendor. Akerman received six finger-rings, the brooch and '209 coins in silver and billon', although he then proceeded to enumerate a total of 211 (*ibid*., 201). There exists, therefore, some uncertainty as to whether the hoard contained six finger-rings rather than the seven mentioned in the letter from Allies who believed, on the basis of his 'very hurried view', that there existed 'four rings set with gems' and three others, whereas Akerman (and thus the Museum) only received three rings with settings (*ibid*., pl. xvii, figs 1–3), together with the three others (figs 4–6). It is not impossible, of course, that Foxwell may have chosen to retain one ring for himself. The number of coins has also fluctuated somewhat; Thompson listed 210 (1956, no. 381), whereas Marion Archibald (in Zarnecki *et al.* (eds.) 1984, 292, no. 319) states that there are '229 coins', including '208 of Henry II's first issue', before commenting:

> Despite the unusual presence of a few Continental coins, the hoard is likely to be of local origin since West Country mints are relatively well represented. Lark Hill belongs to a group of hoards which may be associated with the baronial troubles of 1173–4.

On the other hand, Neil Stratford, writing in the same catalogue (*ibid*., 293, no. 320), cautions that 'the presence of a few foreign coins in the hoard means that the English origins of the Lark Hill rings can be no more than a strong presumption'.

The five other extant rings (Dalton 1912, nos 1025, 1740 and 1743–5; Zarnecki *et al.* (eds) 1984, no. 320,a–c and e–f), as well as the lost brooch (Akerman 1855, pl. xvii,7), all belong to medieval types which first became fashionable during the twelfth century; they have, therefore, been excluded from this catalogue as not being of 'Viking character' (see above, pp. 2 and 14). It only remains to note Akerman's concluding observation (*ibid*., 202) that:

> with the fragments of the linen cloth, or purse, in which this hoard was found, were the remains of wax, as though the whole had been carefully sealed up previously to its being deposited.

The six finger-rings were first illustrated together in a photograph by Thompson (1956, pl. xxiv,b), although the hoard is misnumbered in his caption (*recte* no. 381). They formed part of the British Museum's special exhibition of *Jewellery through 7000 Years* (Tait (ed.) 1976, no. 463), and were displayed, together with eighteen of the coins, in the 1984 Arts Council exhibition of *English Romanesque Art 1066–1200* (Zarnecki *et al.* (eds) 1984, nos 319–20); they have since been exhibited in both Rome (1994) and Cardiff (1998).

Akerman 1855, 201, pl. xvii, fig. 6; Dalton 1912, 249, no. 1741; Thompson 1956, 148, no. 381, pl. xxiv,b (no. 2); Tait (ed.) 1976, 264–5, no. 463,e; Hinton 1978, 158, no. 35; Cherry 1981, 60, no. 112; Zarnecki *et al.* (eds) 1984, 293, no. 320,d; Tait (ed.) 1986, 138–9, fig. 317; Blackburn and Pagan (Fitzwilliam Museum web list), no. 439.

6 Shotton Hall, near Sunderland, Co. Durham

Coinless gold hoard, found in 1881.
MME: 1990,0606.1. Purchased from Mrs P.I.C. Payne, Minehead, Somerset, in 1990.

Gold assemblage (MME: 1990,0606.1)

Assemblage in the form of a composite gold ring, consisting of four rods, two of which are twisted together (**Pl. 68**). The pair of twisted tapering rods (max. D 0.2cm) is linked at one end to a thicker plain rod, of faceted section (with seven flat faces: 0.4 x 0.4cm), that tapers slightly to one end (D 0.3cm), which is cut and broken, as also to the other which terminates in a coil. This rod is doubled back on itself and crudely joined to the other end of the twisted rods with a short piece of rod that tapers from one end to the other (D 0.75–0.2cm). All four rods are hammered. There are two different pairs of nicks on the thick plain rod and a small pair on one of the twisted rods.
Nicks: 6. D *c.* 8.0cm. Wt 52.9g.

An account of this gold 'assemblage', entitled: 'On an armlet of fine gold, found at Shotton', was one of three short papers read to the Society of Antiquaries of Newcastle-upon-Tyne, by Robert Morton Middleton, Jun. (FLS, FZS, Member of the Anthropological Institute), on 30 July 1884. In the opening paragraph of his paper, Middleton describes the circumstances of its discovery as follows (1885, 189):

> The remarkable ornament which I am now permitted to exhibit was picked up under a gooseberry bush in the garden at Shotton Hall, in the county of Durham, the residence of Ralph Milbanke Hudson Esq, J.P. It was found by Mr. A.G.M. Hudson, in July or August, 1881, on the day after a thunderstorm, and was partially covered with soil when discovered. Probably it had, some time before, been raised to the surface by the gardener or by the agency of worms, and had been washed out by the heavy rain on the occasion referred to. It may, however, have been dropped by a jackdaw or other bird. After so splendid a discovery, the ground was carefully dug over, but no further object of antiquity was found.

It was Middleton's conclusion (*ibid*., 190) that:

> The twisted half at least of this fine armlet is late Roman, and that, as it would originally be only about an inch-and-a-half in diameter, it may have graced the wrist of a high-born Roman lady; but that, having passed, perhaps some time afterwards, into ruder hands, it was enlarged by the addition of the second half in order that it might adorn the arm of some Roman or British soldier.

A letter from Major P.I.C. Payne, the husband of the vendor, dated 10 October 1989 (MME: Object-file), states:

> I have come across a pencilled inscription and printed label in the bottom of the box in which the piece was found. It reads:– 'Found at Shotton and exhibited by R.M. Hudson, Sunderland'. With also a small round adhesive label, with printed in blue around the edge:– Royal Archaeological Institute with in the centre in pencil:– 13 & 14.

There is no reference in the Index of the *Archaeological Journal*, for 1869–93, to the exhibition of this object to the RAI, but the most obvious occasion would have been their Summer Meeting for 1884, which was held in Newcastle (5–13 August), for the contents of 'The Museum' then assembled are only most briefly described in the proceedings (*Archaeological Journal* xli (1884), 449–50).

The object itself was first brought into the British Museum by R. Milbanke Hudson, in August 1932, for examination by T.D. Kendrick. Hudson had previously written (on 8 August), from Yarm-on-Tees, Yorks, that:

> I have in my possession a Gold Armlet which I picked up more than 50 years ago under a gooseberry bush after a thunder storm. The Garden had been worked for more than 100 years. It was thought it might have been carried by a Magpie.

It was subsequently passed down by family descent until brought into the Museum again in 1989, when it was analysed by Nigel Meeks in the Research Laboratory (File No. 5907; BMRL 33837Q), before being privately purchased the following year, as being most probably an 'assemblage' of Viking-age rather than Roman date.

Middleton 1885.

The gold was analysed by microanalysis in the SEM and by XRF:

		Au %	Ag%	Cu%
Long twisted rod	(1)	97.0	2.7	0.3
	(2)	97.1	2.5	0.4
Short twisted rod	(1)	95.75	4.0	0.25
	(2)	95.3	4.4	0.3
Long plain rod		98.2	1.8	<0.2
Short plain rod		98.1	1.9	0.2

The following observations and conclusions are quoted from Meeks' report (*ibid*.):

> All analyses were carried out on tiny fresh scratches to ensure analysis of body metal unaffected by surface depletion. However, surface analysis of uncleaned areas showed only a small loss of copper and silver showing that surface depletion was minimal and that the core metal is high in gold.
>
> The wire [rod] analyses indicate that the two twisted rods are of slightly different composition to each other in the silver content. The two added rods are of the same composition to each other and were probably formed as one rod, the smaller piece being cut from the longer piece for fabrication purposes. These rods are of different composition to the twisted rods but all are made of quite high purity gold. Whether the rods are all contemporary is conjecture, but the idea of an original twisted rod bracelet being modified at the same late date is not unreasonable.
>
> The composition of all the gold components is quite fine, above 95% gold, and although there is a tendency for some Roman period gold to be fine, this is not exclusive to the period and analysis alone is unable to distinguish between Viking and Roman gold. The added rod is even more pure than the original bracelet rod.
>
> Examination for wear on the bracelet showed only relatively minor abrasion except where the two flexible joins rub between the twisted and extension rods. The surfaces were marked but not generally as well worn as one might expect from a well-used piece of jewellery.

7 Soberton, Hants

Mixed silver and gold hoard, found *c.* 1850; deposited *c.* 1068.
MME: 1851,0313.1 and 2. Purchased from H.O. Cureton, London, in 1851.

7:1 Gold annular plaited-rod finger-ring (MME: 1851,0313.1)

Made of six plaited rods, tapering slightly (D 0.15–0.05cm) to ends that are hammered together into a plain band, with expanded mid-portion (L 1.3; W 0.4; T 0.2cm), broken at one end (**Pl. 82**). Worn, with one prominent nick on the inside of the connecting band.
Nicks: 1. D 2.9cm. Wt 15.4g.

7:2 Gold penannular rod finger-ring (MME:1851,0313.2)

Formed from a single rod, with stamped decoration, tapering to pointed terminals, with slightly overlapping ends (**Pl. 82**). At its maximum, the rod has an angled outer face, with flat faces top and bottom and a rounded inner face (pentagonal section: 0.5 x 0.5cm); there are two rows of ring-stamping, along the outer face (one on each facet) continuing almost to the terminals. In good condition, with no nicking.
Nicks: 0. D 2.8cm. Wt 16.7g.

These two gold finger-rings, in differing condition, were found in about 1850 in a field at Soberton, Hants, together with 259 Anglo-Saxon and Norman silver pennies, in a 'red earthenware vessel', deposited *c.* 1068 (Blackburn and Pagan 1986, no. 263). The earliest record of their discovery is the occasion on which Edward Hawkins exhibited them to the (Royal) Archaeological Institute, on 7 February 1851 (*Archaeological Journal* viii (1851), 100):

> Two gold rings, found with a hoard of 229 silver coins, consisting of 78 of Edward the Confessor (Hawkins, Type 223), 159 of Harold (Hawkins, Type 231), and 22 of William the Conqueror (first coinage, Hawkins, Type 233). They were found in a field near Wickham Lodge, Soberton, Hants, in a vessel of dingy red ware, which was immediately broken, or crumbled to pieces... One of the gold ornaments is a torc ring…The other is a penannular ring, of which a representation is here given [**7:2**]; it is punched with small circles…This discovery is very interesting as an evidence of the period to which ornaments of this kind may be assigned.

Shortly afterwards, on 27 February, Hawkins 'gave a short account of a hoard of coins recently discovered near Soberton, in Hampshire' to the (Royal) Numismatic Society (*Numismatic Chronicle* xiv (1852), 17), adding that:

> With the coins were also found two massive ear-rings, weighing together rather more than an ounce, which, together with 113 of the coins were purchased for the British Museum.

According to the Register, these two 'gold penannular ear-rings', together with the coins and a fragment of the 'red earthenware vessel' in which they had been found (MME: 1851,0313.3), were purchased from the London dealer, H.O. Cureton, from whom there is preserved a letter to Edward Hawkins, dated 17 February 1851 (BM *Correspondence*, vol. IV (CO–DY), no. 1173), which simply states:

> The Saxon coins was found in a field near Wickham Lodge near Soberton Hants in a small earthern pot about 3 feet below the surface this is all the information I can give you on the subject.

Both rings are included in Dalton's *Catalogue* (1912, nos 215–16), although the latter (**7:2**) is misleadingly described there (p. 36) as having been 'Found with the preceding number', meaning in fact no. 215 and not the immediately 'preceding' ring which is no. 215c, 'from Gothland'. The Soberton gold rings were illustrated together for the first time in the *BM Anglo-Saxon Guide* (1923, pl. iii,4–5) and have been listed both by Bjørn and Shetelig (1940, 29) and by Hinton (1978, nos 18 and 42). The plaited-rod ring (**7:1**) formed part of *The Vikings in England* exhibition (Roesdahl *et al.* (eds) 1981, no. E17).

Archaeological Journal viii (1851), 100 and fig; *Numismatic Chronicle* xiv (1852), 17; Dalton 1912, 36, nos 215–16; *BM Anglo-Saxon Guide* (1923), 117, pl. iii,4–5; Bjørn and Shetelig 1940, 29; Thompson 1956, 125–6, no. 334; Hinton 1978, 156, 158, nos 18 and 42; Roesdahl *et al.* (eds) 1981, 75, E17; Blackburn and Pagan 1986, no. 263.

IRELAND

8 Near Athlone, Co. Westmeath(?)

Coinless silver hoard (part lost), found in or before *c.* 1851.
In (a) the British Museum; and (b) the National Museum of Ireland.

(a) The British Museum

MME: 1854,1227.62 and 63. Purchased through W. Chaffers, Jun., at the sale of Thomas Crofton Croker's collection (Puttick & Simpson, 21 December 1854, lot 94).

8:1 Silver penannular arm-ring (MME: 1854,1227.62)

Hiberno-Scandinavian broad-band arm-ring, somewhat bent out of shape (**Pl. 70**). It is formed from a broad band of rectangular section, with punched ornament on its outer face; the expanded mid-portion tapers to rectangular terminals, which are slightly thickened (as **8:2**). The ornament is executed using a single punch in the form of an elaborate bar-stamp (L 1.6cm), with variously shaped points (**Fig. 8.1,31**). There is a central diagonal cross, combined with a vertical line (consisting of six impressions), with a row of vertical impressions to either side (sixteen and eighteen respectively), terminating at both ends with a diagonal cross (two impressions) and a single vertical impression (stamp total: 46). It is generally in good condition, with no nicks on its slightly battered edges.

Nicks: 0. D 6.8 x 7.6; H 2.3–0.9; T 0.3cm. Wt 79.6g.

8:2 Silver penannular arm-ring (MME: 1854,1227.63)

Hiberno-Scandinavian broad-band arm-ring, bent so that its terminals are overlapping (**Pl. 70**). This constitutes a pair to **8:1**, although slighter overall, and is decorated with the same bar-stamp (**Fig. 8.1,31**), in the same layout, although there are only fifteen vertical impressions to either side of the central cross (stamp total: 42). The surface is worn, with a group of four nicks (in two pairs on either side of one narrow edge).

Nicks: 4. D 6.5 x 6.0; H 2.1–1.0; T 0.2cm. Wt 52.8g.

When purchased at the London sale of the recently deceased Irish collector, Thomas Crofton Croker, this pair of silver arm-rings (**8:1–2**) was catalogued together, without provenance, as 'Two specimens of silver ring money, or armilla, both ornamented' (Puttick & Simpson, 21 December 1854, lot 94). They were registered separately by the Museum, although it was noted that they were both decorated in the same manner, but were subsequently published together by Bøe (1940, 135–6), as being from 'Ireland (?)', followed by Graham-Campbell (1976b, 68). However, there seems little reason to doubt the later suggestion made by Graham-Campbell and Briggs (1986, 313–14, fig. 6) that they were probably found with a silver arm-ring of the same type, now in the National Museum of Ireland (**8:3**), which can be demonstrated to have formed part of a hoard, consisting of four or five such rings, found near Athlone in the mid-nineteenth century. Croker is known to have purchased 'three or four' of these rings from Donegan (a dealer), in about 1851 (see **Cat. Fig. 39**, described below).

One of these rings (**8:1**) formed part of the North American exhibition, *Vikings: the North Atlantic Saga* (Fitzhugh and Ward (eds) 2000, 421, where it is wrongly identified as that illustrated as fig. 8,3 = **23**).

Puttick & Simpson's Sale Catalogue (21 December 1854), lot 94; Bøe 1940, 135–6; Graham-Campbell 1976b, 68; Graham-Campbell and Briggs 1986, 313–14, fig. 6; Sheehan 1990b, 129; Fitzhugh and Ward (eds) 2000, 421.

(b) The National Museum of Ireland

W.64. On loan from the Royal Irish Academy.

8:3 Silver penannular arm-ring (W.64)

Hiberno-Scandinavian broad-band arm-ring, broken and repaired at one end (**Pl. 70**). It is formed from a broad (but thin) band of rectangular section, with an expanded mid-portion tapering to sub-rectangular ends, having punched ornament on its outer face. The ornament is arranged in five fields (see **Cat. Fig. 39** for the layout, although it is not accurate in detail), with the central one consisting of three zones of diagonal bar-stamping. This bar-stamp is composed of perhaps four lozenge-shaped elements each containing a single pellet (L *c.* 1.5cm), although the end ones are lop-sided; the impressions are in part overlapping. To either side of this confusingly decorated central area, there is a field containing two rows of a distinctive opposed-triangle stamp, with both triangles containing a pair of pellets (6+7 = 13; and 8+8 = 16 impressions). The same stamp is then used to form a single row of decoration, on either side, as the band tapers to the terminals (15 and 13; total: 57 impressions). There is a pair of nicks across one edge of the mid-portion.

Nicks: 2. D 6.6; H 1.5–0.7; T 0.15cm. Wt 27.5g.

This silver arm-ring (**8:3**) forms part of the collection belonging to the Royal Irish Academy, now on loan to the National Museum of Ireland (no. 64 in the manuscript *Catalogue of the Silver and Ecclesiastical Antiquities in the Collection of the Royal Irish Academy*, by Sir William Wilde (who died in 1876), as edited by E.C.R. Armstrong (1915, 289–90, 292, pl. xxv,6 = **Cat. Fig. 39**). It was for long thought to be unprovenanced (cf. Bøe 1940, 114), until the discovery among Sir Joseph Mayer's papers, in Liverpool, of a drawing of this ring (**Cat. Fig. 39**) sent to him from Ireland in 1855 by W.F. Wakeman (Graham-Campbell and Briggs 1986, 309, fig. 1). This is captioned:

> It was found with three or four others near Athlone – the others which were much plainer were purchased from Donegan by the late Crofton Croker about 4 years ago.

This arm-ring is of the same form as the pair catalogued above (**8:1–2**), which the British Museum purchased at the sale of Crofton Croker's collection in 1854, and is decorated in a related, if more elaborate, manner that allows for the description of the latter as being 'much plainer'. It formed part of an exhibition lent to the Viking Ship Museum at Roskilde, Denmark, from 2000–5 (Larsen 2001).

The three extant arm-rings might be considered to have been manufactured approximately on a scale of 1–3 units of *c.* 25.7g, weighing 27.5, 52.8 and 79.6g respectively. The combined weight of these three arm-rings is thus 159.9g; supposing that the hoard had originally consisted of five such rings, then its total weight in silver may be estimated as having been between *c.* 215g and *c.* 320g.

Mayer papers (Liverpool City Reference Library and Record Office): drawing by W.F. Wakeman (1855); Armstrong (ed.) 1915, 289–90, 292 (W.64), pl. xxv,6; Bøe 1940, 114; Graham-Campbell and Briggs 1986, 309–10, figs 1–2; Sheehan 1990b, 129.

Cat. Figure 39 Sketch by W.F. Wakeman of a silver broad-band penannular arm-ring (**8:3**), from a hoard found near Athlone (Liverpool City Reference Library and Record Office), with an extended drawing of the same ring in the collection of the Royal Irish Academy (after Armstrong)

9 Co. Cork

Coinless silver hoard, found in or before 1850. MME: 1851,0331.3. Purchased through H.O. Cureton at the sale of the Rev. Dr W. Neligan's collection (Sotheby's, 20 January 1851, lot 68).

9:1 Silver ingot (MME: 1851,0331.3)

Of D-shaped section, tapering to rounded ends; it has been bent into an ovoid loop (**Cat. Fig. 40** and **Pl. 68**), around which have been attached two pieces of hack-silver (**9:2** and **3**). One pair of nicks located on opposite sides, at opposite ends and on opposite angles, presumably represents an intervention before the ingot was bent in two, whereas there is a group of 3+1, with a large cut between, on one edge of the bend.

Nicks: 7. L (of loop) 3.8 and 2.9; W 1.3–0.8cm. Wt ?

Cat. Figure 40 Silver hoard found in Co. Cork (**9**), when in the Rev. W. Neligan's collection (after Windele)

9:2 Silver arm-ring fragment (MME: 1851,0331.3)

Fragment of a Hiberno-Scandinavian broad-band arm-ring, consisting of the mid-portion with punched ornament; it is cut at both ends (one straight and the other three times) and bent into a closed loop around **9:1** (**Cat. Fig. 40** and **Pl. 68**). The ornament is executed using a bar-stamp comprising interlocking triangles, one with a single pellet and the other plain (**Fig. 8.1,49**), but its surface is worn and battered.

Nicks: 6. W 1.9; T 0.3cm. Wt ?

9:3 Silver arm-ring terminal fragment (MME: 1851,0331.3)

Fragment of an arm-ring consisting of a plain narrow band tapering to a sub-rectangular terminal, the other end being straight cut; it has been bent into a loop around **9:1**, with overlapping ends (**Cat. Fig. 40** and **Pl. 68**).

Nicks: 6. W 1.2–0.8; T 0.3cm. Wt ?

This small silver assemblage (Wt: 99.5g) consists of a complete silver ingot bent into a loop around which two pieces of hack-silver have been attached to form a small hoard. It was first published by John Windele (1851, 332), when illustrated on a lithograph dated April 1851; by this time it had been purchased by the British Museum at Neligan's sale, in January 1851 (lot 68), together with other antiquities. On this occasion it was unprovenanced, but Windele's lithograph is entitled 'Irish silver ring money found in Co. Cork', on which it is depicted (top left) with the caption '*penes Revd. W. Neligan LL.D. 1850*' (**Cat. Fig. 40**). Although listed by Graham-Campbell (1976b, 66), from Windele's publication, it was not recognised in print as being in the Museum until 1986 (Graham-Campbell and Briggs 1986, 311–12, note 2, fig. 3).

Sotheby's Sale Catalogue (20 January 1851), lot 68; Windele 1851, 332 and fig; Graham-Campbell 1976b, 66; Graham-Campbell and Briggs 1986, 311–12, note 2, fig. 3; Sheehan 1998b, 153 and 162, no. 2, fig. 15.3; 2010a, 387, fig. 36.1.

10 Scattery Island (Inis Cáthaig), Co. Clare

Coinless silver hoard found in 1836.
MME: 1872,0520.14 and 15. Purchased through P. Albert, at the sale of the Purnell collection (Sotheby's, May 1872, lot 151).

10:1 Silver-gilt pseudo-penannular brooch (MME: 1872,0520.14)

The brooch has a plain hoop, of oval section (0.5 x 0.35cm), cast with sub-triangular terminals, linked by a narrow bar with two lines of hatched ornament; the pin is missing (**Fig. 6.7** and **Pl. 69**). On the front of both terminals is a deep circular setting, now empty, with a scalloped border; the margins are decorated with highly-stylised animal ornament. On the reverse of both, a double contour line frames a field containing a single plump bird, with pointed beak, circular eye and curled head-lappet; it has two-toed feet (claws) and an extended tail. The head, body and tail each have a contour line – and gilding remains in the recessed backgrounds. Worn gilding covers the decorated surfaces on the front, running on to the ends of the hoop. The outer corners of the terminals have been cut away and the linking bar cut through at one side.

Nicks: 0 (but note the cut-away corners of the terminals). D 4.7cm. Wt 19.09g.

10:2 Silver pseudo-penannular brooch (MME: 1872,0520.15)

The brooch has a plain hoop, almost circular in section (0.7–0.5 x 0.6–0.45cm), cast with sub-triangular terminals, linked with a plain bar; it has a cast barrel-shaped pin-head, but the pin is missing (**Fig. 6.7** and **Pl. 69**). The front of both terminals is decorated with four circular bosses, which have brambled tops and plain collars. The outer margins of the terminals consist of crouched animals, confronting each other across the gap, with open jaws and oval eyes; they have billeted hindquarters, with the animal on the right having a scrolled hip, whereas that on the left is wrongly executed with the leg itself terminating in a scroll. The motif along the inner edge is also most probably zoomorphic in nature, with the highly-stylised animal consisting of a plain body (arching over the innermost boss), with a rudimentary head, on an elongated neck, and a stubby tail. On the reverse of both terminals is a pair of crudely incised concentric lines, with a row of punched dots between. The barrel-shaped pin-head (D 1.2cm) was cast in one around the hoop and has a short conical tenon; it is decorated with a median hatched band, with the tenon having a matching collar. There are two nicks on the hoop (Sheehan 2010b, 27, fig. 5).

Nicks: 2. D 4.0; L (pin-head) 2.1cm. Wt 27.56g.

These two small brooches, the descriptions of which are partly based on those by Youngs (in Youngs (ed.) 1989, nos 87–88) and by Sheehan (2010b), were found together, in 1836, on Scattery Island (Inis Cáthaig), situated in the Shannon estuary, near Kilrush, in south-west Clare. They were first noted in print, and also illustrated (**Fig. 6.7**), by Lady Chatterton, in her *Rambles in the South of Ireland during the year 1838* (1839, II, 214–15 and fig; Sheehan 2010b, 26, fig. 3), who noted that they were 'in the possession of the Rev. J. Mochler of Fermoy' (*recte* James Mockler: see Cahill 2006, 257, note 16). According to Richard Sainthill, who exhibited them (in 1840) to the Cuverian Society in Cork, they had been 'dug up by a peasant in his potato garden, near the ruins of St. Senan's Abbey at Inniscatery' (1844, 229). On typological and stylistic grounds, both brooches have been dated 'to the period of the middle to late ninth century' (Graham-Campbell 1972, 121; cf. Youngs (ed.) 1989, 102–3, nos 87–88).

Sheehan (2010b) has documented and discussed the role of Scattery Island, with its important ecclesiastical centre, in the Scandinavian kingdom of Limerick, suggesting that 'there may well have been an enduring Scandinavian presence there'. This factor, taken together with the nicking on the hoop of one of the brooches (**10:2**) and their lack of pins (both demonstrating that they had entered the bullion economy), lead him to conclude that this find is to be regarded as a Viking-type coinless hoard (Wt 46.65g), which was presumably in Hiberno-Scandinavian possession.

When purchased by the British Museum in 1872, at the sale of the Purnell collection, these two brooches were unprovenanced – and associated only by virtue of forming a single lot – and so they remained until identified a century later by Graham-Campbell (1972, 117), from their original nineteenth-century publication (**Fig. 6.7**). The deceased Rev. Mockler's collection was sold at Sotheby's, on 22 June 1848, and the brooches, together forming lot 97 (provenanced to 'Inniscatery'), were then acquired by 'Crocker', that is to say Thomas Crofton Croker, the Cork-born antiquarian, who displayed them soon afterwards during the annual summer (1848) meeting of the British Archaeological Association, when it was held in Worcester. On this occasion, a soirée was hosted for the Association by Lord and Lady Conyngham, at which many works of art and antiquities were exhibited, including Crofton Croker's 'two silver buckles of Danish manufacture, from Inniscattery, an island at the mouth of the Shannon' (*Journal of the British Archaeological Association* 4 (1848–49), 316).

Crofton Croker died in 1854, and his collection was auctioned in London by Puttick & Simpson, on 21 December, when the Museum purchased over 100 antiquities, including the two Hiberno-Scandinavian arm-rings catalogued above (**8:1–2**), but the brooches entered the Purnell collection, until its above-mentioned sale in 1872.

Chatterton 1839, II, 214–15 and fig; Sainthill 1844, 229; Sotheby's Sale Catalogue (22 June 1848), lot 97; *Journal of the British Archaeological Association 4* (1848–49), 316; Puttick & Simpson's Sale Catalogue (21 December 1854); Sotheby's Sale Catalogue (May 1872), lot 151; Westropp 1897, 281 and fig. (reprinted 1905); Smith 1906, 67, fig. 6; 1914, 229, 236, 238, 240, 248, fig. 13 and pl. xxvi,4; *BM Anglo-Saxon Guide*, 134, 135, figs 175 and 178; Raftery (ed.) 1941, pl. 13,2; Raftery 1941, 128; Mahr 1941, 71; Graham-Campbell 1972, 117–21, pl. 19,a and d (not 'c'), and pl. 20,b; Johansen 1973, 104–5, figs 28–9; Youngs (ed.) 1989, 102–3, nos 87–88; Cahill 2006, 257, note 16; Graham-Campbell and Sheehan 2009, 82; Sheehan 2010b.

11 Unprovenanced: Ireland

Coinless gold (?) and silver (part lost?) hoard, found in or before 1859.
MME: 1897,0323.9 and 10. Purchased from Rollin & Feuardent in 1897, from the collection of Lord Hastings (d.1859).

11:1 Silver annular plaited-rod arm-ring (MME: 1897,0323.9)

Arm-ring broken in a couple of places and in poor preservation, but still in one piece (**Pl. 70**). It is formed from six plaited wires (D 0.1cm), with their ends merged into a lozenge-shaped plate (0.6 x 0.3cm), which has a faint border of punched dots around a central dot.
Nicks: o. D 6.6; W 0.5cm. Wt 16g.

11:2 Silver annular plaited-rod arm-ring (MME: 1897,0323.10)

Arm-ring broken into two pieces and in poor condition (**Pl. 70**), of similar form and construction to **11:1**, but slightly larger in size. It is likewise plaited from six wires (D 0.1cm), with their ends originally merged into a plain lozenge-shaped plate (1.7 x 0.3cm).
Nicks: o. D 6.9; W 0.5; L (of small fragment, with terminal) 5.5cm. Wt 13+6 = 19g.

This pair of small, but finely made, silver arm-rings was purchased by the Museum in 1897, together with other antiquities, including a silver arm-ring (**24**), from Rollin & Feuardent. They had formed part of the collection of Lord Hastings, 16th Baron (who died in 1859), when they were mounted together on a card (which is preserved in the departmental object-file), inscribed: 'Pair of Silver Bracelets found with a Gold Torquis &c. &c. in the British Museum from Ireland' (and numbered 'Lot 299').

The only possible Irish 'gold torquis' of Viking-age date in the Museum, with which this statement might be reconciled, is that found in 1833 at Munterconnaught (Virginia), Co. Cavan (**21**); this had been purchased in 1849 from the collection of the late Redmond Anthony. There is, however, no documentation associated with this gold arm-ring to suggest that it was other than a single-find.

Although Lord Hastings is known, from a contemporary report (Cahill 1994, 53, note 2), to have purchased 'two specimens of Bronze Ring money' at Anthony's sale (Sotheby's, 20 July 1848, lot 153), this was evidently not the source of his Irish silver.

Indeed, the card on which these silver rings were mounted, when acquired by the Museum, is identical with that of his other silver arm-ring from Ireland (**24**), numbered 'Lot 301', and both are similarly marked on the reverse with a dealer's price-code. It may be therefore that the dealer in question was either being less than truthful in indicating that material from this hoard was 'in the British Museum', or had merely intended to indicate that there was comparable material in the collection.

Numerous poorly documented and/or lost hoards were discovered in Ireland during the nineteenth century; indeed, John Sheehan has estimated (pers. comm.) that 'there were about twenty-five silver hoards found in Ireland between 1830 and 1859, and Lord Hastings' rings could have belonged to a number of them'. For instance, only one plain silver ring is known to have survived from the coinless hoard found at Derrynahinch, Co. Kilkenny, in 1851, 'which consisted of about a quart full of rings and pieces of silver' (*Journal of the Royal Society of Antiquaries of Ireland* ii (1852–53), 355–6, as quoted in Graham-Campbell 1976b, 68, note iii).

There is a problem concerning the registration of these two rings in that (as catalogued here) the British Museum Register states that '97,3-23,9' is just 'broken', whereas '97,3-23,10' is 'in two pieces'. However, the further details appear to have been transposed in the Register, with the former being described as 'Diam about 2.8 inches. Wt 290 gr.', and the latter as 'Diam. about 2.5 in. Wt. 260 gr.', but it is the ring 'in two pieces' (**11:2**) which is the slightly larger and thus heavier of the two, even though it is the other (**11:1**) which has the registration number '97,3-23,10' painted inside its terminal (**Pl. 70**).

Graham-Campbell 1976b, 68, 69, note vii.

ISLE OF MAN

12 Ballacamaish, Kirk Andreas

Coinless silver hoard, found in 1868.
MME: 1870,1014.1a–c and 2. Purchased as Treasure Trove in 1870.

12:1 Silver hoop from a twisted-rod neck-ring (MME: 1870,1014.1a)

Neck-ring hoop formed from four pairs of slightly tapering rods (D 0.15–0.1cm), twisted together (**Pl. 71**); both terminals have been cut off (see **12:2–3**), but it is otherwise in excellent condition, with no apparent nicks.
Nicks: 0. D (reconstructed) 13.2cm. Wt 87.9g.

12:2 Silver penannular neck-ring terminal (MME: 1870,1014.1a)

Neck-ring terminal in the form of an expanded plate, with five rows of ring-stamped decoration (**Fig. 8.3,37**) on its outer face (46 impressions), having an S-shaped hook with tightly scrolled end (**Pl. 71**). This fits onto one end of the hoop (**12:1**) from which it has been cut, and to which it was re-attached for display purposes, but now dismantled (see below).
Nicks: 0. L 5.2; W 1.4cm. Wt 7.2g (drilled).

12:3 Silver penannular neck-ring terminal (MME: 1870,1014.1b)

Neck-ring terminal in the form of an expanded plate, with one end cut out to form a hook and the other severed from a hoop of twisted rods; it has four rows of ring-stamped decoration (as **12:2**), on either side of a central thickening, with thirty-nine impressions, on its outer face (**Pl. 71**).
Nicks: 0. L 4.7; W 1.3cm. Wt 7.7g.

Hårdh 1996, fig. 12 (where wrongly identified as being from the Cuerdale hoard).

The above three pieces, if together representing a complete neck-ring (as seems most probable), have a combined weight of 102.8g. It is worth noting in this context that they are all in equally good condition, with no nicking, and that the same ring-stamp, with its off-centre pellet, has been used on both terminals (46+39 = 85 impressions).

12:4 Silver hoop-fragment from a twisted-rod neck-ring (MME: 1870,1014.1c)

Formed from four pairs of slightly tapering rods (max. D 0.2cm), twisted together (as **12:1**, but slightly more substantial); it is broken at one end and seemingly cut at the other, but otherwise in good condition (**Pl. 71**).
Nicks: 0. D *c.* 14.0cm. Wt 59.8g.

12:5 Silver penannular twisted-rod arm-ring (MME: 1870,1014.2)

Arm-ring formed from three tapered rods (D 0.5–0.4cm), twisted together with three pairs of twisted wires; the rod ends are enclosed in truncated, biconical, knob-shaped terminals (D 1.3 and 1.2cm), one of which is slightly flawed (**Pl. 71**). This complete arm-ring is somewhat worn and battered (unlike the neck-ring fragments); there are two nicks on the rods and a couple, with a cut, on the flawed terminal knob.
Nicks: 5. D 7.4cm. Wt 85.2g.

According to W. Kermode, in *The Manx Note Book* (1885, 71), the silver objects comprising this small coinless hoard:

> …were found in a marl pit on Ballacamaish, in the parish of Andreas, in 1868, by some labouring men, who handed them over to Mr. C.H.E. Cowle…He was obliged to deliver them up as 'Treasure Trove,' and they were sent to the British Museum.

Amongst the correspondence on deposit in the Manx Museum, between Government House and the Treasury in London, is the draft of a letter (dated 27 July 1870), initialled by H.B. Loch, the Lieutenant-Governor (Treasury Correspondence 1870–71: GO 20/4), stating that:

> The articles have been placed in my possession. They consist of:
>
> An ornament in very perfect condition of plaited silver – it appears to have been worn as a necklace.
>
> A large portion of a similar ornament.
>
> A solid silver bangle in very perfect preservation.
>
> Their united weight is very nearly nine ounces.

Details of the subsequent correspondence between the Treasury, the Lieutenant-Governor and the British Museum (Treasury Correspondence 1870–71: GO 20/4 and GO 20/81; 1876–77: GO 23/14) have been published by Graham-Campbell (1983a, 77–8, Appendix C). The Register for October 1870 records the purchase of this small coinless hoard by the Museum (as treasure trove) for £6.6.0, and lists the objects as follows:

> 1. Silver two portions of a plaited torque Anglo-Saxon period, hook at one end. L 1ft. 10½.
>
> 2. Silver armlet, twisted with small twist along grooves, globular ends. D3.

The following paragraphs are quoted, with some additions and minor modifications, from Graham-Campbell (1983a, 77–8):

> The British Museum [A.W. Franks] thus seems to have decided that what appeared to the Manx authorities to be the remains of two neck-rings were in fact fragments of a single ornament (**12:1–4**). It was presumably then that they were pinned together to form the object illustrated by Bjørn and Shetelig (1940, fig. 25) and accepted as such by Wilson (1974, 38, 46). The earliest photograph of the Ballacamaish rings to have been published is that in *Annual Report* of the Manx Museum for the year ending 31 March 1909 (fig. 6), but it is important to note that this is of the copies which had been acquired by the Museum in 1908 (*ibid.*, 13: BO.8.2–3; see also Kermode 1911, 440); this photograph, which includes the reproduction of the neck-ring fragment from the Ballaquayle hoard (**12:2**), is that subsequently reproduced by Kinvig (1944, fig. 25).
>
> In 1981 the Department of Medieval and Later Antiquities [L. Webster] submitted this ring to the Museum's Research Laboratory, unhappy about the reluctance of the reconstruction to maintain its form, with the query as to whether it might have been incorrectly re-assembled. Independently, Graham-Campbell raised with the Department the problem of the number of pieces in the hoard indicated by the above correspondence. On being dismantled, it appeared that the four pieces did in fact belong to two neck-rings, one complete (although with its terminals cut off) and another represented only by the mid-part of its hoop. Small surface areas of the four pieces were then examined by M. Cowell, using XRF (File No. 4774). The semi-quantitative analytical results obtained are listed below.
>
> The two terminals are similar in composition and are close to that of the hoop (**12:1**) to which one clearly fits (**12:2**); its nineteenth-century repair, which consisted of an inserted rod, attached with solder and a brass pin, has since been removed. The other terminal (**12:3**) could well have fitted on to the other end of the hoop, but this cannot be demonstrated conclusively. There can, however, be little doubt that it does belong to the same ring, for in form it is the 'female' to pair with the terminal attached to the hoop, and both have the same ring-stamped ornament made by a stamp with a lop-sided centre. The difference in the alloy of the two hoops is 'slight, but probably significant' and thus it 'may belong to a separate ring'. This suggestion by Cowell is substantiated by detailed measurements of the four pairs of twisted rods from which each is formed. The hoop with terminal (**12:1–2**) has rods with a maximum diameter of 17mm, tapering at both ends to 15mm; the second hoop (**12:4**) is constituted from rods with a maximum diameter of 20mm, tapering to 16mm at one end and 14mm at the other. It is thus not possible that they could originally have been joined to form a single ring. The conclusion is therefore that the Ballacamaish hoard consisted of one neck-ring, cut into three pieces (**12:1–3**), a fragment of a second similar ring (**12:4**), and a complete arm-ring (**12:5**), as first illustrated by Graham-Campbell (1983a, fig. 7).

XRF analytical results

	% Silver	% Copper	% Gold	% Lead
1870,1014.1a hoop	98.2	1.3	0.4	0.1
1870,1014.1a terminal (on hoop)	98.9	0.6	0.4	0.1
1870,1014.1b terminal	98.5	1.1	0.3	0.1
1870,1014.1c hoop fragment	95.8	3.3	0.7	0.3

The combined weight of these five pieces of silver is 247.8g. The hoard was presumably deposited in the tenth century – and perhaps earlier rather than later during this period, given the absence of any coins and/or 'ring-money' (cf. the Ballaquayle hoard (**13**), deposited *c.* 970).

Government Office Papers (Manx Museum Library): GO 20/4 (Treasury Correspondence 1870–1) and GO 23/14 (Treasury Correspondence 1876–7); *The Manx Note Book* (1885), 40, 71; *Manx Museum and National Trust Annual Report* (1907), 23–5, Appendix II; *MM and NT Annual Report* (1909), 13, fig. 6; Kermode and Herdman 1904, 100–11; 1914 (2nd ed.), 137; Kermode 1911, 440; Bjørn and Shetelig 1940, 53, figs 22–3; Kinvig 1944, fig. 25; Wilson 1974, 38 and 46; Graham-Campbell 1983a, 63, 68, 76–7 and 77–8, no. 19 (Appendix C), fig. 7; 1995, 37, 49 and 95; Bornholdt Collins 2003, Corpus, 86, fig; Wilson 2008, 112, fig. 53.

13 Ballaquayle (Douglas), Onchan

Mixed gold and silver hoard, found in 1894; deposited *c.* 970.
In (a) the British Museum; and (b) the Manx Museum.

(a) The British Museum

MME: 1895,0809.1–8. Purchased as Treasure Trove.

13:1 Gold annular twisted-rod arm-ring (MME: 1895,0809.1)

Arm-ring formed from a pair of slightly tapering gold rods (D 0.2–0.4cm), twisted together, with a pair of twisted wires (D 0.05cm), laid between them (**Pl. 72**). The slightly expanded terminal-plate, which has sprung apart from the rods at one end, is decorated with a single row of a plain opposed-triangle stamp (= 9 impressions). Apart from some missing wires, the ring is in good condition with no definite nicks (the one pair looking modern).

Nicks: 0. D (present) 7.9; (closed) 7.8cm; terminal-plate: W 0.55 x 0.25cm. Wt 78.1g.

13:2 Silver penannular twisted-rod neck-ring fragment (MME: 1895,0809.2)

Part of a neck-ring formed from two pairs of slightly tapered rods (D 0.4–0.3cm), twisted together and laid side by side; between the two rods in each pair is a pair of twisted wires (D 0.07cm), with a finer wire (D 0.04cm) laid on either side (**Pl. 72**). The rods are fused into a plain terminal of rectangular section, with a hooked end terminating in a scroll. The ring has been cut approximately in half.

Nicks: 1. D (original) *c.* 15cm. Wt 95.8g.

13:3 Silver annular arm-ring (MME: 1895,0809.3)

Arm-ring formed from a tapering lozenge-sectioned rod (0.6 x 0.6–0.4 x 0.4cm), further tapered into rods of circular section (D 0.2cm), the ends of which are twisted together (**Pl. 73**).

Nicks: 1. D 8.3cm. Wt 38.0g.

13:4 Silver penannular lozenge-rod arm-ring (MME: 1895,0809.4)

Arm-ring of 'ring-money' type, formed from a rod of square section (1.0. x 1.0cm), slightly flattened on the inner angle, tapering to straight-cut ends (0.6 x 0.6cm); in excellent condition (**Pl. 73**).

Nicks: 1. D 8.1cm. Wt 93.1g.

13:5 Silver penannular rod arm-ring (MME: 1895,0809.5)

Arm-ring of 'ring-money' type, formed from a rod of sub-circular section (D 0.8cm, with curved outer face and faceted inner face, tapering to straight-cut ends (D 0.5cm); in excellent condition (**Pl. 73**).

Nicks: 2. D 7.3cm. Wt 71.6g.

13:6 Silver penannular rod finger-ring (MME: 1895,0809.6)

Finger-ring formed from a rod of circular section (D 0.3cm), tapering to straight-cut ends (D 0.2cm); there is a small nick on the inside edge and a smaller pair, opposite, on the outside (**Pl. 73**).

Nicks: 3. D 2.3cm. Wt 2.5g.

13:7 Silver pin-head (MME: 1895,0809.7)

Pin-head of a 'thistle-brooch', cast together with its pin of circular section (D 0.75cm), which is cut through (**Pl. 74**). The brambling, on the front, is executed by criss-cross filing and ring-stamping (**Fig. 8.3,38**). The engraved ornament on the rounded reverse is in the form of a key-pattern cross, within a triple border, consisting of a row of beading between two plain; a simplified version of this motif is repeated on the pin-top, with only a single plain border (**Cat. Fig. 41**). The side-collars are plain, except for a single incised line. The flared pin-top (D 2.1cm) is divided into eight bands (described from the top): (i), (v) and (vii) are plain; (ii) and (vi) consist of an incised chevron line, containing plain triangles; (iv) is rounded, with transverse hatching; and (viii) forms the angled collar, also transversely hatched. The angled pin-collar consists of an interlocking chevron-row, between plain bands, with the top of the pin-shaft having a cylindrical moulding, which has a row of Z-stamping (**Fig. 8.4,9**), above another interlocking chevron-row, between plain borders. There are some small imperfections in the casting, but the pin-head is well hollowed out. A small slice off the pin-top edge is the only likely nick.

Nicks: 1(?). L 11.3; W 3.85cm. Wt 100.7g.

Cat. Figure 41 Silver 'ball-type' brooches (**13:7** and **13:9**), from the Ballaquayle hoard, Isle of Man: pin-top decorations (**13:9**, after Megaw)

13:8 Silver brooch pin (MME: 1895,0809.8)

Pin from a ball-type brooch, bent into a loop (**Pl. 74**). The pin is socketed (split) for attachment to a pin-head tenon; its shaft commences circular in section (D 0.95cm), becoming hexagonal (0.8 x 0.6cm) and then lozenge shaped, before tapering to its point (the tip of which is missing). The pin, which is worn, has one major nick and a group of about eight small ones.

Nicks: 9. L *c.* 48cm. Wt 113.4g.

(b) The Manx Museum

Manx Museum: 4408–19 and 4421. Treasure Trove.

13:9 Silver pin-head fragment (MM: 4408)

Part of a pin-head from a plain ball-type brooch, with plain stepped collars and an expanded pin-top; it is fully cored out (**Pl. 74**). The reverse is flattened, with a compass-incised hexafoil, within a pair of concentric circles; in addition, there is a crudely incised cruciform motif on the pin-top (**Cat. Fig. 41**).

Nicks: 0. W 3.6; D 2.8cm. Wt 66.8g.

13:10 Silver annular twisted-rod arm-ring (MM: 4409)

Arm-ring formed from two rods of flattened circular section (max. D 0.4cm), twisted together, with a pair of twisted wires laid between them; there must originally have been two such pairs, because every other twist of the rods is empty (**Pl. 75**). The rods taper slightly to their ends, which are simply merged together so that there is no proper terminal.

Nicks: 0. D 7.9cm. Wt 47.0g.

13:11 Silver arm-ring fragment (MM: 4410)

Part of an arm-ring of complex construction, being formed from a rod of circular section (D 0.4cm), around which seven thinner rods (D 0.1cm) have been plaited to form a three-sided 'cage', which is broken (**Pl. 75**). The main rod has been cut through at both ends. There is surface corrosion, but no obvious nicking.

Nicks: 0. D 7.6cm. Wt 45.3g.

13:12 Silver penannular rod arm-ring (MM: 4411)

Arm-ring of plain 'ring-money' type, formed from a rod of lozenge-shaped section, which is flattened on the inner angle (0.8 x 0.8cm); it has rounded spatulate ends (**Pl. 75**). There are two deep nicks opposite each other on the upper/lower angle, with a pair of cuts between.

Nicks: 4. D 7.1cm. Wt 50.9g.

13:13 Silver penannular rod arm-ring (MM: 4412)

Arm-ring of plain 'ring-money' type, formed from a rod of lozenge-shaped section, but flattened on both inner and outer angles resulting in a hexagon (0.8 x 0.8cm), tapering slightly to straight spatulate ends (0.7cm), which now overlap (**Pl. 75**). Corrosion obscures part of the surface, but one group of four cuts/nicks is visible.

Nicks: 4. D 5.7cm. Wt 47.5g.

13:14 Silver penannular rod arm-ring (MM: 4413)

Arm-ring of plain 'ring-money' type, formed from a rod of lozenge-shaped section (0.6 x 0.6cm), tapering to flattened ends (0.45cm), as both **13:16** and **17** (**Pl. 75**). There is a deep crack across the outer angle and some corrosion.

Nicks: 2. D 6.0cm. Wt 22.2g.

13:15 Silver penannular lozenge-rod arm-ring (MM: 4414)

Arm-ring of plain 'ring-money' type (**Pl. 76**), formed from a rod of rectangular section, but with all four angles flattened resulting in an octagon (0.75 x 0.9cm), tapering to square ends (0.4 x 0.4cm). There is a pair of nicks (one each on both of the inner angles), and approximately ten light cuts on the outer angles.

Nicks: 12. D 7.3cm. Wt 65.6g.

13:16 Silver penannular rod arm-ring terminal fragment (MM: 4415)

Part of an arm-ring of plain 'ring-money' type, formed from a rod of lozenge-shaped section

(0.9 x 0.9cm), tapering to a flattened end (0.5cm), as both **13:14** and **17**; it is cut through at the other end, approximately in half (**Pl. 76**).
Nicks: 2. L 6.2cm. Wt 25.6g.

13:17 Silver penannular rod arm-ring terminal fragment (MM: 4416)
Part of an arm-ring of plain 'ring-money' type, formed from a rod of lozenge-shaped section (0.6 x 0.7cm), tapering to a flattened end (0.5cm), as both **13:14** and **16**; it is cut cleanly through at the other end, approximately in half, and bent into a loop (**Pl. 76**).
Nicks: 3. L 5.5cm. Wt 19.0g.

13:18 Silver rod arm-ring fragment (MM: 4417)
Part of an arm-ring formed from a plain rod of circular section (0.8cm), cut and broken at both ends (**Pl. 76**). There is some corrosion, but six clear nicks.
Nicks: 6. L 5.8cm. Wt 36.4g.

13:19 Silver penannular rod arm-ring terminal (MM: 4418)
Part of an arm-ring formed from a plain rod of circular section (0.7cm), tapering to a straight end (0.45cm); it is cut through at the other end, approximately in half (**Pl. 76**). There is some corrosion, but no obvious nicking.
Nicks: 0. L 5.2cm. Wt 18.1g.

13:20 Silver ingot (MM: 4419)
Of sub-triangular section, in the form of an oblong bar, with rounded ends (**Pl. 76**). There is some corrosion, but no obvious nicking.
Nicks: 0. L 3.0; W 0.6–0.4; H 0.6cm. Wt 6.2g.

13:21 Silver penannular rod arm-ring (MM: 4421)
Arm-ring formed from a plain rod of circular section (0.7cm), tapering to ends (0.5cm), which have been hammered flat to result in slightly flared (0.6cm), straight terminals (**Pl. 76**). There is some corrosion, but no obvious nicking.
Nicks: 0. D 7.2cm. Wt 49.7g.

This mixed hoard was found on 12 June 1894 on the estate of Woodbourne, in Upper Douglas, which had previously formed part of the quarterland of Ballaquayle, in the parish of Kirk Onchan ('Conchan'). It has consequently, in the past, been called both the 'Woodbourne' and the 'Douglas Treasure Trove', but is today more usually known as the 'Ballaquayle hoard'. According to Basil Megaw (1938, 77, note):

> The site of the discovery is now beneath No. 66 on the north side of Derby Road… The position of the find was about 250 feet south-east of Woodbourne House.

Dolley has, however, subsequently suggested that it could have been found under No. 64, rather than 66 Derby Road (1975a, 191, fig. 3).

The following notice, headed 'Treasure Trove', was issued by George Drinkwater, the Crown Receiver, on 14 June 1894 (as published in *The Isle of Man Times*, on 16 June):

> All Persons having in their possession any portion of the Treasure Trove recently discovered at or near Woodbourne, are required to deliver the same up to the Chief Constable, and all Persons having parted with any portion of such Treasure Trove, are requested to give information to the Police which may lead to the recovery of the same.

After a belated warrant had been issued on 18 June, a Court of Enquiry was held in Douglas, which met on 23 and 30 June, in order to obtain the required information and to secure what could be recovered of the treasure. Its two-part proceedings were published in *Mona's Herald*, no. 3261 (27 June 1894), reprinted in the *Manx Sun* (30 June), and in *Mona's Herald*, no. 3262 (4 July). Further details of these court proceedings and the newspaper reports have been published by Basil Megaw (1938, 77–8, 80, note 4), including the following account of the discovery, which is taken from the statement made by John Stephens, the finder of the treasure:

> A week last Tuesday about ten o'clock in the morning, I was digging on the ground. I was within a foot or two of finishing the job, after working at it for five or six weeks. I was digging 18 inches or 2 feet deep. I was picking the ground when the pick went into some coins. I picked some up, but as I took them in my hand they broke. I then proceeded to throw them out with the spade on to the bank, and they were afterwards spaded into the carts and taken away to the rubbish tip…
>
> I had looked at the coins, but as they were all decayed like, and coming to pieces, I did not think it worth while putting them into my pocket. They were not worth looking at, and you could not get one in fifty that you could hold in your hand. Mr. Cretney came and drew my attention to them and said there might be some good ones among them…and we picked up a few and examined them. I opened the hole wider, and took out a gold bracelet…that I thought was brass, and a lot of other bracelets and things which I had on the bank. I looked a bit at the bracelet, and then when I looked again for the rest of the things they were gone…
>
> I should think that there were near about a thousand coins altogether. They were all rotten and decayed – at least the biggest part of them…There was any amount of them lying on the ground after the cart was filled with earth…
>
> The sod was first taken off the spot where these things were found. The articles were about six inches below the surface of the soil altogether… The things were in a recess about that long [indicating with his hands a space about 9 inches long and 6 inches wide and deep], formed by stones on each side. The coins were mostly on one side. There was no stone in the bottom, and I think the top was covered with soil.

According to the subsequent evidence of William Cretney, who was engaged in carting earth from the foundations to the tip:

> I put hundreds of the coins out at Peel-road tip, thinking them of no value…I have been told that some coins were afterwards found there.

On 30 November, 'the court met for the third time, and the jury decided that the coins and ornaments were treasure-trove and therefore the property of the Crown' (Grueber 1913, 323), but the sum total of the hoard that had been recovered consisted of one gold arm-ring, twenty pieces of non-numismatic silver and ninety-five coins. There then followed a delay before the Lieutenant-Governor despatched the Treasure Trove to the Home Office, on 21 March 1895, together with a list of the thirteen individuals from whom 'packets' of coins had been recovered, and a list of the bullion which indicates that it had passed into the hands of at least three 'owners'. From this it is worth noting that Stephens seems to have surrendered the gold ring and up to sixteen pieces of silver, together with a 'packet' of coins described as 'Lot broken', whereas Cretney gave up a 'Bracelet & pin and armlet', together with ten coins (GO Papers: Acc. 9845, Box 40).

This Treasure-trove file (Bundle No. 1) contains unpublished correspondence (dating from 23 June 1894 to 18 January 1896), relating to the Lieutenant-Governor's attempt to persuade H.M. Government to relinquish any claim to the hoard, its despatch (as above) and partial return, an exchange of letters with Grueber at the British Museum, and much matter pertaining to Stephens' claim (investigated and rejected) that he deserved a larger payment than he received because much of his find had been stolen from him. A second Treasure-trove file, for 1896 (GO Papers: Acc. 9845, Box 47), contains a further exchange of letters with the Home Office, concerning an attempt made by the Manx authorities to recover the costs of the 1894 Court of Enquiry, as well as yet another appeal by John Stephens for 'Justice'!

After the hoard reached London, where its receipt was acknowledged on 26 March 1895 (Box 40), it was forwarded by the Lords of the Treasury to the British Museum. However, as noted in Chapter 1 (p. 4), 'representations from a number of Manx gentlemen worthy of remembrance moved the Treasury to return to the Manx Museum Trustees the greater part of the find' (Megaw 1938, 78). Indeed, according to Grueber (1913, 323, note 2), 'by special request of the Treasury the selection of coins made for the Museum was small, only 19 pieces out of 95; and of the ornaments eight were retained' (**13:1–8**), although five coins were assigned to the Royal Mint; the remaining coins and thirteen items of silver (**13:9–21**) were thus allocated to the Manx Museum. They are registered in *The Manx Museum Catalogue*, which P.M.C. Kermode, the first Curator, commenced in 1905: the 'Personal Ornaments' being nos. 2–12 (on p. 51), with the coins 'named and valued by the British Museum' being listed separately (on pp. 134–5), as nos 1–45, with no. 45 comprising 'Fragments of coins of Eadgar & Edwig, of metal value only (about 2 oz.'); see also *The Manx Museum Register*, No. 2, which commences with 'Articles acquired before 1905', where the 'Personal Ornaments' are again listed (p. 9: nos 29–38). These were joined in 1908 by copies of the ornaments in

the British Museum (*Annual Report*, 1909, 13–15 (BO.8.4–11), figs 6–8, with fig. 8 being of the pin-head (**13:9**) already in the collection).

According to Megaw (1938, 79, note), 'seven coins … and a number of unidentified fragments' were recovered 'from private persons' in the 1920s, so that he knew of a total 'of 102 coins surviving from the hoard', although even then (in 1938) he was aware that 'yet more are known to remain in private hands' (*ibid*., 78). However, not one ornament or piece of hack-silver has since come to light to add to the twenty-one items first recorded.

The overall state of knowledge was summarised by Dolley in 1969, in his paper entitled 'New light on the 1894 Douglas hoard', following the purchase by the Friends of the Manx Museum of seven coins from a Manx resident; at the same time he drew attention (*ibid*., 121) to the existence of further coins which had appeared in twentieth-century sales (e.g. Blunt 1966). On this occasion, Dolley wrote that 'as concealed the Douglas hoard may well have included two or three hundred coins' (1969, 121), although he subsequently modified this clearly minimalist total, when he stated that 'the scale of the hoard has perhaps been exaggerated, but at a conservative estimate it amounted to several hundred coins in addition to the ornaments and other non-numismatic material' (1975a, 191).

A further group of fourteen 'tenth-century Anglo-Saxon silver pennies very probably from the 1894 Douglas treasure-trove hoard' was subsequently purchased by the Friends of the Manx Museum (*Annual Report*, 1978, 4), since when Hugh Pagan has published (1980, 12):

> Five parcels of coins which appeared at sales conducted by Messrs. Sotheby between January 1898 and June 1899, and which there is reason to believe should be associated with the Ballaquayle find.

By way of conclusion to his paper (*ibid*., 15), Pagan wrote:

> Students may gauge the importance of this material for a reconstruction of the Ballaquayle hoard from the fact that the number of Ballaquayle coins from all sources identified up till now is in the region of 200; while the list below [pp. 15–19] adds to these 200 coins at least another 120 of which the sale catalogues provide reasonable identifications and a further 50 or so described less fully.

Most recently, Kristin Bornholdt Collins, in her as yet unpublished Manx *Corpus of Viking-Age Coin Hoards* (2003), has concluded that 'about 400 coins have been traced to date (*ibid*., 24), out of 'several hundred coins, possibly even up to one thousand' (*ibid*., 23).

Dolley's summary of the coins known to him was that they consisted of Athelstan, Eadmund, Eadred and Eadwig, but predominantly of Eadgar (with an overwhelming proportion from north-western mints), together with a couple of Viking pennies struck at York and a representative of an Imitative Series, copying Eadgar, struck possibly in the Irish Sea area. From this he concluded that the hoard had been deposited during the 970s, or *c.* 975 (Graham-Campbell 1983a, 57, with refs). The deposition date of *c.* 970 adopted here is that of Blackburn and Pagan (1986, no. 165), since confirmed by Bornholdt Collins in her Manx *Corpus* (2003, 42), where she states:

> The fact that such a large sample [of the coins of Edgar] completely lacks post-reform types is strong evidence that the coins were assembled before *c.* 973, or at least not too long after Edgar's reform of the coinage, and an estimated deposit date of *c.* 970 (and not later than 975) is probable.

Her detailed study of all the coins currently available from the hoard likewise confirms the dominance of those of Edgar (over 75%), but has enabled her to conclude, at variance with Dolley, that it has 'a strong North-Eastern flavour' (*ibid*., 42), although 'coins of the Southern and Eastern parts of the country, and from Chester, Derby and York, are also well-represented in this broad-ranging mixture' (*ibid*., 43).

The most important early account of the Ballaquayle hoard is the paper, on 'The Douglas Treasure Trove', read by the Rev. Canon John Quine, on 18 July 1894, to the Isle of Man Natural History and Antiquarian Society, which was subsequently published in 1901. Quine's lecture was therefore given just over a month after the treasure had been found, and he had been able, given his position as Headmaster of Douglas Grammar School, to inspect the site within an hour or two of the find having been made. His detailed account of the discovery of the treasure, and of the immediate aftermath, is therefore worth extensive quotation in the context of the evidence given to the Court of Enquiry, and of our knowledge of the material that was eventually surrendered (as described above), as well as of the version of these events subsequently published by H.A. Grueber, in 1913 (as described below).

> In 1894, Quine stated that (1901, 242–3):
> On Tuesday, June 12th, 1894, some workmen, in the employ of a Douglas builder, were digging the foundation of a new house on the north side of Derby-road, Douglas, in the field adjoining Woodbourne House. The new house fronts on Derby-road. In digging a cross-trench, parallel to the fronting and about five yards back from the road, for a dwarf wall to support the joists for the floor, one of the workmen stuck his pick into a receptacle, which may be described as a miniature stone grave, consisting of three pieces of clay slate, of a roughly rectangular shape, about the size of the face of a common brick, one on each side and one on the top, and also smaller pieces of slate enclosing the ends. The receptacle was little more than a foot below the surface. From the nature of the ground, it had never before been disturbed. It was common mould, and underneath stiff clay. There were no traces of any ancient foundations of buildings; nor any evidence that the ground had been used in ancient times as a burying ground, or in any way opened. The person who had made the stone receptacle had manifestly dug a hole, lined it with the slaty stones, and covered it up again. It was just sufficiently deep to have escaped the plough, which no doubt might many times have passed over the spot.
>
> The contents of the receptacle consisted of a quantity of coins, seemingly several hundred in number, and a quantity of jewellery. The workmen at once took possession of the articles of jewellery, and most of the coins. As the spot was so near the street, people were very soon attracted to the find and got possession of numbers of coins, which the workmen seem to have practically given away, as being of little value. In this way a large number of the coins became dispersed, and passed into the hands of persons throughout the town. On the information of Mr J.L. Kneale, brother of Mr. W. Kneale, our veteran Insular antiquary, I went to the spot soon after the discovery of the treasure. The workman who had made the discovery [John Stephens] showed me the situation in which the treasure had been found, and the slates which had lined it. He also placed in my hand sixteen of the coins. They were encrusted with a greenish coating, which obscured the inscription. On examination I found that the encrustation could easily be removed without injuring the coins, and succeeded in cleaning half-a-dozen. They proved to be unquestionably Saxon silver coins, of the reigns of Athelstan, Edwy, and Edgar, all in excellent preservation, and the inscriptions, in every case, perfectly legible.
>
> On further inquiry I found that, besides the coins, there had been articles of jewellery. On the evening of the same day, at the house of the workman, I saw over ten dozen coins, practically all in the same state as those which I had in my possession, and eleven articles of jewellery. The articles of jewellery which I examined were (1) a fine gold bracelet of cable pattern, (2) two fine silver bracelets of cable pattern, (3) four bracelets or bangles, plain, and seemingly of silver, and open to the extent of about half an inch; (4) a plain silver ring (not closed) about the size of a finger ring; (5) half of a beautifully-twisted silver circlet for the hair, of about 18 inches circumference, terminating in a hook; (6) a piece of metal, about 15 inches in length, round in section, with a hollow socket at one end, and thinning to a point at the other end, and becoming square in section, and thinning to a point at the other end, but roughly coiled round, as if by the workman, to put in his pocket, though possibly found so by him; (7) a round hollow piece of metal, which I understand to be the knob or head of a large brooch pin. Subsequently I saw another head of a brooch pin, and much more perfect, that had been taken possession of by another workman. I have had no opportunity of examining the articles further, but I am assured that the workmanship is Danish, and that they are very similar to many examples in the Copenhagen collection. On Wednesday, June 13th, the authorities were communicated with, and steps were at once taken to secure the find of any

> treasure trove by the agent of the Crown. A part, if not the whole, of the jewellery has been recovered; and a considerable number of coins.

All twelve of the 'articles of jewellery' seen by Quine, in June 1894, may be recognised amongst the rings and brooch fragments catalogued above, even if his 'circlet for the hair' (4) is more correctly to be identified as the neck-ring fragment (**13:2**).

When the hoard reached the British Museum in 1895, H.A. Grueber completed a full description of the coins; however, given that he had not been provided with any particulars concerning its discovery, he put his paper aside where it was to remain untouched for several years. Finally, Grueber turned to 'the local papers of the Isle of Man' for the necessary information, and 'The Douglas find of Anglo-Saxon coins and ornaments' was published by him in 1913. It was presumably from one of these 'local papers' that he extracted the information that John Stephens' 'pick displaced the top of an earthenware vessel, which fell to pieces', so disclosing the treasure (*ibid.*, 322). This description of the discovery is clearly at odds with both the evidence given by Stephens himself to the Court of Inquiry, and Quine's eye-witness account (as quoted above), neither of which makes any mention of there having been 'an earthenware vessel' in the stone-lined 'recess'.

In the meantime, P.M.C. Kermode had read a paper to Isle of Man Natural History and Antiquarian Society, on 25 February 1908, in which he described all of the non-numismatic material from 'The Woodbourne Treasure-Trove', on the occasion when he was able to exhibit copies of the ornaments in the British Museum which had been newly received by the Trustees (as described above). His paper was published in 1911, but it was not accompanied by any illustrations, the first to have appeared in print being those in the *Annual Report* for 1909 (figs 6–9); however, as already noted, three of these are of copies of objects in the British Museum (**2:1–2** and **7**), and only one (fig. 9) is genuine, being the silver pin-head belonging to the Manx Museum (**2:9**). Kermode and Herdman subsequently reproduced figs 7–8 in the second edition of their book on *Manks Antiquities* (1914, figs 64–5), whereas Kinvig reproduced fig. 6 in his *History of the Isle of Man* (1944, fig. 25).

The non-numismatic material from the Ballaquayle hoard was not in fact to be illustrated in its entirety until 1938, in a seminal paper by Megaw concerning both the discovery and the contents of the treasure. It was also listed by Bjørn and Shetelig (1940, 51–3), in part on the basis of information provided by Megaw (*ibid.*, 7), but their series of photographs (figs 17–21) omits the pin-head and ingot in the Manx Museum (**13:9** and **20**), whereas Thompson (1956, pls xii,b and xiii,a) illustrated just the objects in the Manx Museum, except for the pin-head. Although drawings of twelve objects were made to illustrate the 'Douglas Treasure' for C.W. Airne's *Story of the Isle of Man* (1949, 71, figs 3–7), they vary in scale without indication. The complete non-numismatic contents of the hoard were once again listed and illustrated together by Graham-Campbell in 1983 (1983a, 74–5, no. 5 (Appendix B), figs 8–9).

In addition to the gold arm-ring, which weighs 78.1g, the combined weight of the twenty pieces of silver bullion amounts to 855.3g, giving a total bullion weight of 933.4g. On the basis that the hoard will originally have contained between 500 and 1,000 coins, a figure of *c.* 800 may be suggested for present purposes (or double the number so far traced), which could have had an approximate weight of 1kg. Altogether, therefore, the Ballaquayle hoard is likely to have weighed *c.* 2kg, making it the largest Viking-age treasure known from the Isle of Man.

Both parcels of bullion from the Ballaquayle hoard, together with six coins, were united for the 1990 exhibition in Liverpool Museum, *A Silver Saga* (Philpott 1990, 68, 82) and the eight pieces in the British Museum (**13:1–8**) formed part of the 22nd Council of Europe exhibition, *From Viking to Crusader* (Roesdahl and Wilson (eds) 1992, no. 362).

The Isle of Man Times (16 and 26 June 1894; 23 March 1895); *Mona's Herald*, no. 3261 (27 June 1894), reprinted in the *Manx Sun* (30 June 1894); *Mona's Herald*, no. 3262 (4 July 1894); *The Examiner* (26 October 1895); *Government Office Papers* (Manx Museum Library): Acc. 9845, Box 40 (Treasure Trove 1886–96) and Box 47 (Treasure Trove 1896); Quine 1901; *Manx Museum and National Trust Annual Report* (1907), 23–5, Appendix II; *MM and NT Annual Report* (1909), 13–15, figs 6–9; Kermode and Herdman 1904, 100–1 (see also Kermode and Herdman 1914); Kermode 1911; Dalton 1912, 36, no. 211; Grueber 1913; Kermode and Herdman 1914 (2nd ed.), 137, figs 64–5; *BM Anglo-Saxon Guide* (1923), 108; Shetelig 1933, 140–1, figs 46–7; Megaw 1938; Bjørn and Shetelig 1940, 51–3, figs 17–22; Kinvig 1944, fig. 25; Airne 1949, 58, 71, fig; Thompson 1956, 49–50, no. 127, pls xii,b and xiii,a; Blunt 1966; Dolley 1966, no. 112; 1969; Wilson 1974, 36, 38–40, 46, fig. 20 (bottom); Dolley 1975a, 191–2; 1975b; *MM and NT Annual Report* (1978), 4; Pagan 1980; Graham-Campbell 1983a, 57, 68–9, 74–5, no. 5 (Appendix B), figs 8–9; Blackburn and Pagan 1986, no. 165; Philpott 1990, 68; Roesdahl and Wilson (eds) 1992, 323, no. 362; Graham-Campbell 1995, 35, 39, 49, 55, 58, 155, 164; Bornholdt Collins 2003, *Corpus*, 22–43 [M6]; Wilson 2008, 105, 113–14, fig. 50.

SCOTLAND

14 Inch Kenneth, Argyll

Mixed silver hoard (part lost), found in or shortly before 1830; deposited *c.* 1000. MME: 1851,0613.1. Presented by Major Ker McDonald in 1851.

14:1 Silver chain fragment (MME: 1851,0613.1)

Part of a chain worked in the Trichinopoly technique; incomplete at both ends (**Pl. 14**). It is made from an exceptionally fine silver wire (D *c.* 0.01cm), so that ordinary nicking would have been impossible.

Nicks: 0. L 46.0; W 0.3; T 0.1cm. Wt 4.56g (from Graham-Campbell 1995, no. 10).

14: 2–4 'Three large silver rings or armillae, resembling oriental bangles'

Lost: *Proceedings of the Society of Antiquaries of London* i (1843–49), 297.

14:5+ 'Some weights of lead bound with iron'

Lost: *Archaeological Journal* vi (1849), 72.

This mixed silver hoard was found by Capt Ker Macdonald (later Major McDonald) on his father's small island of Inch Kenneth, off the coast of Mull, in or shortly before 1830 because he gave a selection of coins from it to the Society of Antiquaries of Scotland on 24 January 1831 (*Archaeologia Scotica* v (1890), Appendix, 5), only after 'most of the best coins' had 'been given away to friends'. The hoard consisted of 'nearly a hundred' coins, comprising a mixture of English, French and Hiberno-Norse (Stevenson 1966, xxx–xxxi), which suggest that it had been deposited within the date bracket *c.* 998–1002 (Metcalf 1995, 23, no. 10), together with this silver chain fragment (**14:1**), three (lost) silver arm-rings (**14:2–4**) and 'some' (lost) lead weights (**14:5+**). The chain was twice exhibited in London by McDonald in 1849, the first occasion being on 5 January to the (Royal) Archaeological Institute (*Archaeological Journal* vi (1849), 72), and the second to the Society of Antiquaries, the following week, on 11 January (*Proceedings of the Society of Antiquaries* i (1843–49), 296–7). It was subsequently presented by him to the Museum in 1851, together with a further selection of coins; the fate of the arm-rings and weights (**14:2–5**+) is unknown.

This chain fragment was included in *The Vikings* exhibition (Graham-Campbell and Kidd 1980, no. 489; Graham-Campbell 1980, no. 434), and again in *A Silver Saga* at Liverpool Museum (Philpott 1990, 69).

Society of Antiquaries of Scotland MS Communications, VI (1829–32); *Archaeological Journal* vi (1849), 72; *Proceedings of the Society of Antiquaries of London* i (1843–49), 296–7; *Archaeologia Scotica* v (1890), Appendix, 5; Thompson 1956, 72, no. 196; Dolley 1966, no. 133; Stevenson 1966, xix, xxx–xxxi; Graham-Campbell 1976a, 122, 129; 1980, 128, no. 434; Graham-Campbell and Kidd 1980, 200, no. 489; Blackburn and Pagan 1986, no. 194; Philpott 1990, 69; Metcalf 1995, 23, no. 10; Graham-Campbell 1995, 30, 50–1, 100, no. 10, pl. 3,b–c.

15 Tiree, Argyll

Mixed silver hoard (part lost), found in 1780; deposited *c.* 970.
MME: 1807,0314.1 (OA 3040). Presented by Lord Frederick Campbell in 1807.

Silver ingot (MME: 1807,0314.1)

Of sub-rectangular section, tapering slightly to rounded ends; it has been hammered flat on its upper and lower faces, and roughly on its sides (**Pl. 15**). In its uncleaned condition, it displays green corrosion products. There are five clear nicks along one angle, and two on that diagonally opposite.

Nicks: 7. L 5.0; W 0.85; H 0.55cm. Wt 17.23g (from Graham-Campbell 1995, no. 4).

The British Museum Register for March 1807 records the donation of:

> A small Ingot of Silver found among a Parcel of Saxon and other coins in Scotland in the year 1780 upon the Estate of the Duke of Argyle, from Lord Frederick Campbell.

This ingot (1807,0314.1) could not be located in the 1970s, but has since been equated with the small ingot described above which was unnumbered in the then Department of Medieval and Later Antiquities (and so registered as OA 3040). This identification has been made on the grounds that not only is there no other specimen in the Museum with which it could correspond, but also because it displays green corrosion characteristic of the Tiree coins (Graham-Campbell 1976a, 128, note iii).

Eighteen years earlier, in April 1789, 'his Grace the Duke of Argyle by the hands of the Rt Honble Ld Frederick Campbell' had given the Museum 121 Anglo-Saxon and other coins from two hoards found on Tiree in 1780 and in 1787. A manuscript list of these coins, amongst the papers of the Rev. Rogers Ruding (Martin 1961, 230–2), copied from a document in the possession of the Rev. Richard Southgate (d. 1795), contains the following information:

> The above coins were all found on the Isle of Tiry one of the smaller Hebrides, some in the year 1780, by a tenant of the Duke of Argyle, who, whilst he was digging Potatoes accidentally lighted upon them, concealed as he imagined in some sort of cloth, which however was chiefly mouldered away. The others were found in 1787, likewise by a Tenant of the Duke whilst he was planting potatoes. These were contained in an earthernware Pot. Both parcels lay between two and three feet below the surface of the earth; and both pots are within a small distance of two Danish forts. The former near *Dun a Chalish*, and the latter near *Dun Hiadin*.

The first of these supposed 'Danish forts' is a broch and its outwork, on 'the rounded summit of Dùn Mór a'Chaolais, a low rocky hill (39m OD) which dominates the NE end of the island' (*Argyll: An Inventory of the Monuments,* III (1980), no. 166). The 1787 find comprised a thirteenth-century hoard of English 'Short Cross' pennies (Thompson 1956, 136, no. 358, where its discovery is wrongly dated to 'Nov. 1788').

There is a problem in attempting to assess the size of this (1780) mixed silver hoard because of the report published in the *York Courant*, for 10 September 1782, stating that:

> Lately was discovered in the Island of Tyrie, one of the Hebrides, ten or twelve ounces of Saxon coins, inscribed with the names of Aethelstan, Edmund, Edred, Edgar, etc. These coins are in excellent preservation and about sixpence in intrinsic value.

A fuller account is provided in John Lindsay's *View of the Coinage of Scotland* (Cork, 1845) and ninety of the coins were given to the Society of Antiquaries of Scotland, on 1 October 1872, by the Glasgow jewellers, Brydon and Baillie (Smellie 1784, no. 354; Graham-Campbell 1995, 99, no. 7). It is said that they were found 'in an urn' by 'some men in clearing away the foundation of an old wall' (Lindsay 1845, 261).

Although these reports might well be describing two separate hoards found within a couple of years of each other on Tiree, both dating from the same time bracket *c.* 970–80? (Metcalf 1995, 21–2, nos. 4 and 7; Graham-Campbell 1995, 97–8, no. 4, and 99, no. 7), this interpretation has been challenged by Blackburn (1996b, 87) who proposes reverting to the otherwise generally accepted view that these are slightly conflicting accounts of one and the same find (e.g. Dolley 1966, no. 119; Stevenson 1966, viii, xxiii; Graham-Campbell 1976a, 122, 128; Blackburn and Pagan 1986, no. 171). In this case, the hoard will have consisted of a substantial, although uncertain, number of (at least predominantly) Anglo-Saxon coins, calculated by weight as *c.* 250–500 in number (Dolley 1959, 159; cf. Jonsson 1987, 207: '200–400 coins'), and a minimum of this one ingot, given that is not mentioned in any of the original accounts.

York Courant (10 September 1782); Smellie 1784, 67, no. 354; Lindsay 1845, 261; Thompson 1956, 136, no. 357; Dolley 1959; Martin 1961, 231–2, 239; Dolley 1966, no. 119; Stevenson 1966, viii, xxiii; Graham-Campbell 1976a, 122, 128, note 111; Blackburn and Pagan 1986, no. 171; Metcalf 1995, 21–2, nos 4 and 7; Graham-Campbell 1995, 49, 59, 97–8, no. 4, and 99, no. 7, pl. 3,a; Blackburn 1996, 87.

16 Unprovenanced: Scotland

Coinless silver hoard (of unknown size), found before 1851.
MME: 1851,0715.8 and 9, and OA 10303 (**25**). The first two rings were purchased through A.W. Franks at the Edinburgh sale of C.K. Sharpe's collection (Tait & Nisbet, 12–18 June 1851, lot 506); the acquisition of the latter is unrecorded.

16:1 Silver penannular arm-ring (MME: 1851,0715.8)

Hiberno-Scandinavian broad-band arm-ring, formed from a broad band of rectangular section, with punched ornament on its outer face; the expanded mid-portion tapers evenly to sub-rectangular terminals (**Pl. 78**). The central field is decorated with two longitudinal pairs of interlocking rows of T-stamping (**Fig. 8.4,4**), with seven in one and nine in the other. On either side of this field there extends a row of seven chevrons pointing towards the terminals, each chevron being formed from a pair of oblique impressions made with a bar-stamp having a plain centre between serrated edges (**Fig. 8.1,79**). These rows are terminated at their outer ends with a vertical transverse impression from the same punch, with another such separating two further fields of T-stamping, of which the inner has four Ts arranged to form a diagonal cross and the outer has four Ts forming a vertical cross; the ornament is terminated with two more vertical transverse impressions. Stamp total: 68 (32 Ts and 36 bars). In good overall condition, but a nineteenth-century code has been scratched on the central part of the inner face: an/N/R/ea/.

Nicks: 3 (one large nick on an inner angle, towards one terminal, and a small pair). D 7.3; H 2.1–1.1; T 0.2cm. Wt 61.34g (adapted from Graham-Campbell 1995, no. 21:1).

16:2 Silver penannular arm-ring (MME: 1851,0715.9)

Hiberno-Scandinavian broad-band arm-ring, formed from a broad band of rectangular section, with punched ornament on its outer face; the angular expanded mid-portion tapers to sub-rectangular terminals, one of which has a more rounded end than the other (**Pl. 78**). The central field is decorated with a diagonal cross comprising four impressions made with a bar-stamp having a plain chevron band forming triangles each containing a central pellet (**Fig. 8.1,50**); two incomplete vertical impressions partially fill the upper and lower angles of the cross. On either side of this field there extends a row of fourteen vertical transverse impressions, using the same punch as for the rest of the ornament, which is terminated at both ends with a diagonal cross (two impressions) and one further vertical transverse impression. Stamp total: 40 bars. In good overall condition, but with the same nineteenth-century code, also scratched on the central part of its inner face, as on ring **16:1** = an/N/R/ea.

Nicks: 7 (one large nick on an inner angle, in the same position as that on **16:1**, and 6 small slices). D 7.6; H 2.2–1.1; T 0.3cm. Wt 78.26g (adapted from Graham-Campbell 1995, no. 21:2).

16:3 Silver penannular arm-ring (MME: OA 10303)

Hiberno-Scandinavian broad-band arm-ring, formed from a broad band of rectangular section, with punched ornament on its outer face; the expanded mid-portion tapers evenly to sub-rectangular terminals which have rounded ends, slightly overlapping (**Pl. 78**). The ornament is executed using the same two punches (**Figs 8.1,79** and **8.4,4**) as on ring **16:1**. The central field is decorated with two longitudinal pairs of interlocking rows of T-stamping, nine in each, on either side of which there extends a row of vertical transverse bar-stamps (with eleven and twelve impressions respectively), ending with a diagonal cross (of two bar-stamp impressions); the ornament is terminated with two more vertical transverse impressions. Stamp total: 49 (18 Ts and 31 bars). In good overall condition (drilled), but with a similar nineteenth-century code, also scratched on the central part of its inner face, to that on rings **16:1–2**: o/N/C.

Nicks: 1 (one large nick on an inner angle, in the same position as that on both the other rings (**16:1–2**), cut from the same angle and to a similar depth). D 6.8; H 1.85–0.8; T 0.25cm. Wt 52.02g (adapted from Graham-Campbell 1995, no. 21:3).

The first two of these three silver penannular arm-rings (**16:1–2**) were purchased on behalf of the Museum in 1851, by A.W. Franks, together with seven other items, at the Edinburgh sale of 'the Collection of Objects of Virtu of the late Charles Kirkpatrick Sharpe, Esq., of Hoddam'. They were then listed (Tait & Nisbet, 12–18 June 1851, lot 506) as simply: 'Two Curious Ancient Anglo-Saxon Silver Armlets, Engraved', but when registered in the Museum, with the other material from the Sharpe collection (1851,0715.1–9), it was recorded that 'Nos 8 & 9 were found in Scotland', although no other evidence for this provenance has been located. No records at all survive concerning the provenance of the third arm-ring (**16:3** = **25**), or even for its acquisition by the Museum, but it has been attributed to this same find by John Sheehan for reasons presented below (1984, 76, note 22; but see now Graham-Campbell and Sheehan 1995). The following two paragraphs are taken, with minor modifications, from Graham-Campbell 1995 (pp. 106–7, no. 21):

> As remarked first by John Sheehan (*op. cit.*), the groups of letters scratched within the first two rings (an/N/R/ea) are related in form and style to those (o/N/C) scratched in the same way on the inside of the third arm-ring (**16:3**), suggesting that all three rings had been associated previously. This relationship must have existed before the 1851 Sharpe sale, as the two 'Silver Armlets' purchased by Franks were the only such items amongst the 1,269 lots. It must therefore be supposed that the scratched marks within all three rings were put there at an earlier date, perhaps by Sharpe's supplier. The rings catalogued here as **16:1** and **3** are, however, more clearly and directly related in that their ornament is entirely executed by means of a combination of the same two stamps (**Figs 8.1,79** and **8.4,4**), so establishing that they are both the products of a single craftsman or workshop. A further feature linking all three arm-rings, not previously noted, is the presence in a similar position on each one of a single deep nick, cut from the same direction into an inner angle, *c.* 2–3.0cm from the end of a terminal.
>
> Sheehan also pointed out (*ibid.*) that the existence of base-metal reproductions of these British Museum arm-rings in the collection of the Royal Irish Academy, now in the National Museum of Ireland, provides further evidence of their earlier association. These hand-stamped copies (Graham-Campbell 1995, fig. 33) form a single group with two further such base-metal Hiberno-Scandinavian broad-band arm-rings, numbered 12–16 (relating to some unknown catalogue or list), in which no. 12 = **16:2**, no. 13 = **16:3**, and no. 15 = **16:1**. The other two copies (nos 14 and 16) represent ornamented rings which [at the time of writing] were no longer known to exist. This group has been identified by Raghnall Ó Floinn, of the National Museum of Ireland (pers. comm., 13/1/93), with five 'Leaden penannular Armlet-shaped Object[s]', listed as nos. 58–62 (under 'Table Case 21. Drawer 20.21.27.28'), on p. 53 of a manuscript 'Catalogue of the Petrie Collection of Antiquities in the Museum of the Royal Irish Academy' (dated 29 October 1874), compiled by R.J. Mac Eniry who was Curator of the Academy's Antiquities Collection; George Petrie left his collection to the Academy in 1866.

On this basis, Graham-Campbell and Sheehan (1995) went on to surmise the possible existence, during the mid-nineteenth century, of a hoard of five complete Hiberno-Scandinavian broad-band arm-rings, probably from Scotland. However, this hypothesis must now be ruled out given that Graham-Campbell has since recognised (but not previously published) the fact that Petrie's 'Armlet-shaped Object' no. 14 (Graham-Campbell and Sheehan 1995, 774–5, no. 4) is a copy of the silver arm-ring said to have been found 'near Oxford', first recorded in 1857 when in the collection of W.H. Forman, but subsequently acquired by Philip Nelson (no. 23) from the Grantley collection, and now in the Liverpool World Museum (see Appendix 2.4 and **App. Fig. 2.4**).

Two of these arm-rings (**16:1-2**) formed part of the exhibition, *A Silver Saga*, at Liverpool Museum (Philpott 1990, 69) and the latter was included in the North American exhibition, *Vikings: the North Atlantic Saga* (Fitzhugh and Ward (eds) 2000, fig. 8.4). Their combined weight amounts to 191.62g.

Tait & Nisbet Sale Catalogue (12–18 June 1851), lot 506; *BM Anglo-Saxon Guide* (1923), 128; Grieg 1940, 111, fig. 57,bis; Butler 1966, 100–1, pl. ii; Graham-Campbell 1976a, 124, 130; Sheehan 1984, 26, 76, note 22; Philpott 1990, 69; Graham-Campbell 1995, 27, 105–7, no. 21, figs 28 and 33, pl. 7; Graham-Campbell and Sheehan 1995; Fitzhugh and Ward (eds) 2000, 130, fig. 8.4 (colour) and 421.

Part II

Single-finds of Viking-age Gold and Silver (17–41)

A. INGOT (17)

IRELAND

17 Co. Cork

PEE: 1871,0401.13. Purchased from Sir Thomas Tobin, Ballincollig, Co. Cork, in 1871; found in or before 1852.

17 Gold oblong ingot (PEE: 1871,0401.13)

Of octagonal (faceted rectangular) section, with slightly rounded ends (**Pl. 77**). It narrows towards one end and is thus slightly wedge-shaped; the hammered surfaces have been left rippled, perhaps (in part at any rate) to disguise some evident surface flaws.

Nicks: 2. L 5.4; W 0.8; H 0.5cm. Wt 28.3g.

No information appears to have been available concerning the provenance of this gold ingot when it was purchased by the Museum in April 1871, together with other Irish antiquities (including **23**), from the collection of Sir Thomas Tobin, Ballincollig, Co. Cork. However, among the five gold objects exhibited by Tobin in Belfast, in 1852, there was an 'Ingot of Gold, Co. Cork' (*Catalogue*, no. 34); the same five objects were lent by him the following year to the Great Industrial Exhibition held in Dublin, this time with the catalogue entry: 'Gold ingot found in the co. Cork' (*Catalogue*, no. 1843.5). It is a reasonable assumption, therefore, that this is the same, as the otherwise unprovenanced, ingot now in the Museum, given that Tobin is not known to have possessed more than one such specimen.

The ingot was listed by J.J. Taylor in *Bronze Age Goldwork of the British Isles* (1980, 137, CoCk 1), as a 'bar ingot' from 'County Cork?' in the section of her catalogue entitled: 'Types undatable except by association'. This suggestion of a Bronze-age date has, however, been rejected by Cahill (2006, 263–4) and is further confirmed by the recognition of two small nicks, from opposite directions, on two of the angles of one side.

Descriptive Catalogue of the Collection of Antiquities, and other Objects, illustrative of Irish History, exhibited in the Museum in Belfast…September, 1852 (Belfast, 1852), 23, no. 34; *Official Catalogue of the Great Industrial Exhibition*, 1853 (Dublin, 4th ed.), 142, no. 1843.5; Taylor 1980, 137, CoCk 1; Cahill 2006, 263–4, pl. xxii.

B. RINGS (18–36)

(i) Neck-ring (–)

There is no single-find of a neck-ring of Viking character from Britain or Ireland in the British Museum.

(ii) Arm-rings (18–25)

ENGLAND

18 Near Eastbourne, East Sussex

MME: 1990,0707.1. Purchased from Derek C. Eade, Eastbourne, in 1990; found in the 1950s.

18 Gold annular plaited-rod arm-ring (MME: 1990,0707.1)

Arm-ring formed from four gold rods plaited together; these are of circular section tapering towards their ends (D 0.3–0.1cm) which are bound with gold wire and fused into a plain bi-conical knop; one end has sprung apart at this point (**Pl. 79**). Its abraded surface condition, resulting from its sojourn on the seabed, obscures the detail of the nicking, which is certainly present, but cannot be accurately counted.

Nicks: c. 12. D 8.0cm. Wt 82.3g.

This gold arm-ring, in sand-abraded condition, was dragged up in a gill-net from a flat piece of seabed in the English Channel, by the vendor's father, about 4–4½ miles (c. 7km) off the coast of Eastbourne, East Sussex, in the 1950s.

19 Goodrington, Devon

MME: 1979,1004.1. Purchased at auction through James Ede (Sotheby's, 10 July 1979, lot 31); found in 1978.

19 Gold annular twisted-rod arm-ring (MME: 1979,1004.1)

Arm-ring formed from three gold rods twisted together; these are of circular section tapering towards their ends (D 0.4–0.2cm), which are encased in gold sheet, forming a facetted rectangular knop (L 0.9; W 0.5; H 0.55cm); a piece of gold wire was bound around on either side, but this survives on one side only, the other having suffered damage which has also distorted the overall shape of the ring (**Pl. 79**). All three outer faces of the terminal knop are decorated with four ring-stamps (**Fig. 8.3,39**), one in each corner of the lozenge-shaped fields. The surface is worn and pitted, but there are traces of a couple of nicks.

Nicks: 2. D 9.0cm. Wt 114.9g.

This gold arm-ring was found by Mrs K.E. Creasy on 3 October 1978, during her honeymoon, while collecting shells with her husband on the seashore by Goodrington, in Tor Bay, Devon. In the *Annual Report of the Coroners' Society of England and Wales*, H. Sykes-Balls (Her Majesty's Coroner for Torbay and South Devon District) recalled that (1979, 27):

> The tide was out, and they were walking along the high water mark. Behind a small rock she saw a gold-coloured object partly concealed in the sand.

At the inquest, on 20 March 1979, it was declared not to be Treasure Trove and was thus returned to the finder, who sold it at auction. Shortly after its purchase by the Museum, it was included in *The Vikings* exhibition (Graham-Campbell and Kidd 1980, no. 238; Graham-Campbell 1980, no. 222), and subsequently in *Die Wikinger*, at the Historisches Museum der Pfalz Speyer (Marzinzik in Koch (ed.) 2008, 286).

Examination at the British Museum Research Laboratory in November 1978, by M. Cowell (File No. 4230), using XRF, gave a composition for the surface metal of 99% gold, with less than 1% silver and less than 1% copper.

Sotheby's Sale Catalogue (10 July 1979), lot 31; Sykes-Balls 1979a; 1979b; Graham-Campbell 1980, 62, no. 222; Graham-Campbell and Kidd 1980, 196, no. 238; Koch (ed.) 2008, 286.

20 Wendover Dean, Bucks

MME: 1849,0210.1. Presented by Robert Fox, London, in 1849; found in 1848.

20 Gold penannular twisted-rod arm-ring (MME: 1849,0210.1)

Arm-ring formed from a pair of twisted gold rods of circular section, with a pair of twisted wires laid between them (of which a short length is missing towards one end), the rods tapering slightly (D 0.4–0.3cm) towards plain straight-ended terminals (**Pl. 79**). The ring is worn, with some surface damage, so that the number of nicks is uncertain.

Nicks: c. 4. D 8.8; T (section) 0.9–0.4cm. Wt 144.2g.

This gold arm-ring was exhibited by Robert Fox, through the agency of Albert Way, to both the Society of Antiquaries of London and the (Royal) Archaeological Institute in 1848, before being published the following year when it was illustrated, full-size, in an engraving by Orlando Jewitt, from a drawing by Albert Way, captioned 'Torc-armilla found at Wendover Dean' (Way 1849, fig. 1). A second version of Way's drawing, engraved by James Basire, was reproduced in *Archaeologia* xxxiii (1849), as pl. xv, but this is, however, dated 23

April 1851, by which time the ring had been 'Presented to the British Museum by Robert Fox Esqre' (in 1849). The main caption describes it as a 'Gold Armilla found in 1847, near Wendover, Bucks', the year also recorded for its discovery in the title given to Way's accompanying letter (14 November 1848) describing the find: 'Account of the Discovery of an Armilla of pure Gold, in clearing a Coppice near Wendover in Buckinghamshire in 1847' (*ibid*., 347). However, Way's fuller description of the circumstances of its discovery, in a field called 'the Riddings', states that (1849, 49):

> This beautiful ornament, according to the information kindly communicated by Mr. Fox, was found on May 24, 1848, upon a farm in his possession, in that part of the parish of Wendover, called Wendover Dean, and in the occupation of Mr. James Olliff. One of his labourers named Charles Rockell, employed in ploughing, observed the gold glittering on the ridge of his fresh-turned furrow: he picked it up, and on return from his work it was carried to his master. The piece of ground where the bracelet was thus brought to light by the plough, had been woodland, covered with beech-trees…In the winter of 1845 Mr. Fox had caused this wood to be cut down and grubbed up. The tenant had repeatedly ploughed and harrowed the soil; and, doubtless, the grubbing up of deep roots had brought this precious object to the surface, but it had remained concealed until the last spring.

Wendover Dean is located 2 miles (3km) south of Wendover, a town on the northern edge of the Chiltern Hills, in Buckinghamshire. Wendover was, however, transplanted to Essex by Bjørn and Shetelig (1940, 30), confused by the reference to this arm-ring in the *BM Anglo-Saxon Guide* (1923, 117), as being similar in manufacture to the finger-ring from West Bergholt, Essex (**32**), an error perpetuated when it was catalogued as part of the Anglo-Danish exhibition on *The Vikings in England* (Roesdahl *et al.* (eds) 1981, 75, E16). In 1997/98, the Wendover arm-ring was displayed in New Delhi and Mumbai, as part of the *Enduring Image* exhibition (Burton (ed.) 1997, no. 201).

Way 1849, 48–9, fig. 1; *Proceedings of the Society of Antiquaries of London* i (1849), 282–3; *Archaeologia* xxxiii (1849), 347–9, pl. xv; *BM Anglo-Saxon Guide* (1923), 117, pl. iii,7; Bjørn and Shetelig 1940, 30; Hinton 1978, 156, no. 1; Roesdahl *et al.* (eds) 1981, 75, E16; Burton (ed.) 1997, no. 201.

IRELAND

21 Munterconnaught (Virginia), Co. Cavan

MME: 1849,0301.2. Purchased from William Anthony, London (ex-Redmond Anthony collection, Piltown, Co. Kilkenny), in 1849; found in 1833.

21 Gold annular arm-ring (MME: 1849,0301.2)

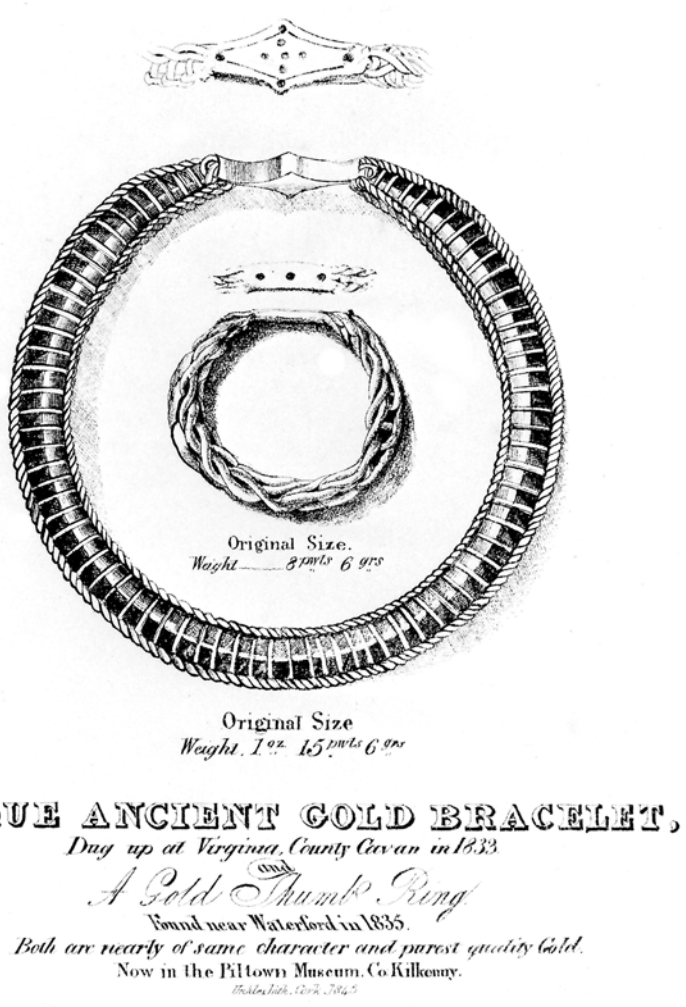
Arm-ring consisting of a plain gold rod of circular section within a three-sided frame plaited from seven thin gold rods, or wires (D 0.1cm), slightly tapering towards the ends, which are beaten together and soldered to a substantial lozenge-shaped plate (L 2.1; H 0.95; T 0.3cm), with incised decoration (**Cat. Fig. 42** and **Pl. 80**). According to Oddy (1984, 246, no. 15), 'the wire has every appearance of having been originally drawn' (**Pl. 80**). The terminal plate is decorated with an incised contour line, with a dot at each angle, framing a cruciform arrangement of five further dots (**Fig. 8.3,2**). The ring is in good condition, but has seen considerable wear and modern handling so that it is impossible to establish the number of nicks with any certainty.

Nicks: c. 8. D 7.3; H 0.8cm. Wt 54.8g.

The earliest publication of this gold arm-ring consists of its representation, captioned 'Dug up at Virginia, Co. Cavan in 1833', on a lithograph dated 'Cork, 1845', together with the gold finger-ring (**35**) from near Waterford (**Cat. Fig. 42**; as first reproduced in Cahill 1994, pl. xviii), when both rings were in the Piltown Museum, Co. Kilkenny, of Redmond Anthony's antiquities. It was presumably a copy of this lithograph that was sent by Edward Hoare, the Cork antiquarian, to Albert Way in London, for communication to the (Royal) Archaeological Institute in 1848, when he illustrated this ring, in a woodcut by Orlando Jewitt, as part of his recent 'Archaeological intelligence' (*Archaeological Journal* v (1848), 154–5 and fig.).

The arm-ring was no. 11 in 'Mr Anthony's Bog Oak Case of Gold Antiquities', in its 'Under Tray No. 2' (Cahill 1994), listed as 'Bought from Mr. Cowen Dublin found in the parish of Mounter Virginia Co. Cavan Unique' (*ibid.*, 101), Cowen being a Dublin jeweller. In an unpublished letter to Dean Dawson (Royal Irish Academy, MS. 4.B.36, no. 106), Redmond Anthony wrote (in part) from Piltown:

> I was in full possession of the history of my Irish Bracelet before I arrived in Dublin through a friend whom I had commissioned – on the business – which is this –, It was purchased by O'Reily for 7£ (some say 5£) – then sold to Cowen for – Ten pounds or Guineas – & I have already refused £18 for it…
>
> I hold myself proofs of its being Irish –, my twisted thumbring found in the County Waterford [see **35**, below], – Mr Petrie's rings and above all, and before all –, the specimen you had bought from Peters and Mockler – now in yr own collection would prove it, – however every one has an undoubted right to form his own opinion, – my own individual opinion is founded on comparison with articles I know to be Irish…


Original Size.
Weight 8 pwts 6 grs
Original Size
Weight 1 oz. 15 pwts 6 grs
UNIQUE ANCIENT GOLD BRACELET,
Dug up at Virginia, County Cavan in 1833
and
A Gold Thumb Ring
Found near Waterford in 1835.
Both are nearly of same character and purest quality Gold.
Now in the Piltown Museum, Co Kilkenny.

Cat. Figure 42 Gold annular arm-ring (**21**), from Munterconnaught (near Virginia), Co. Cavan, when in Redmond Anthony's collection, with **35** (Royal Irish Academy)

The correct form of the parish name today is Munterconnaught (Cahill 1994, 106, note 30); Virginia itself is a market village on the north shore of Lough Ramor.

After Anthony's death (in January 1848), this ring formed part of the 'choice assemblage of Early Irish ornaments, &c.', from his collection, that was exhibited by Henry Farrer on the occasion of the annual summer meeting of the (Royal) Archaeological Institute, held at Lincoln in July 1848, when it was described in the 'Catalogue of antiquities', printed in the *Memoirs* … (1850, xxxiii), as having 'a small wire gracefully twined around a larger one'. This 'choice assemblage' was subsequently purchased by the Museum in its entirety, in 1849, from Anthony's son, William (including **34** and **35**).

The arm-ring was eventually republished, with a photograph, by Bøe (1940, fig. 71), but it has since been included in both *The Vikings* exhibition (Graham-Campbell and Kidd 1980, no. 229; Graham-Campbell 1980, no. 226) and *A Silver Saga* in Liverpool Museum (Philpott 1990, 71), with colour illustrations.

Lithograph (Cork, 1845): copies are preserved in the Royal Irish Academy's *Specimen Book* (Clibborn Scrapbook, p. 4; presented by Dr Aquilla Smith, 12 July 1846), *Archaeological Miscellania* (Portfolio I, sheet 1,c) and Windele MS. 12.C.1, p. 836; *Archaeological Journal* v (1849), 154 (fig.), 155; *Memoirs illustrative of the History and Antiquities of the County and City of Lincoln, communicated to the Annual Meeting of the Archaeological Institute of Great Britain and Ireland, held at Lincoln, July 1848* (1850), xxxiii; Bøe 1940, 104–5, fig. 71; Graham-Campbell 1980, 62, no. 226; Graham-Campbell and Kidd 1980, 196, no. 229, pl. 81 (colour); Oddy 1984, 246, no. 15, pl. 6; Philpott 1990, 56 (colour plate), 71; Cahill 1994, 100, 101, 103, 104 (note 6), 106 (note 30), pl. xviii.

22 Unprovenanced: Co. Westmeath?

MME: 1853,1014.3. Purchased from Mr Wilkin, Mullingar, Co. Westmeath, in 1853; found in or before 1853.

22 Silver penannular arm-ring (MME: 1853,1014.3)

Arm-ring of Hiberno-Scandinavian broad-band prototype, with plain punched ornament on its outer face (**Pl. 81**). The ring, which is rectangular in section, tapers smoothly, in both width and thickness, from its mid-portion to its sub-rectangular terminals, which are slightly overlapping. The central field is decorated with a double diagonal cross, formed by two pairs of a plain bar-stamp, on either side of which extends a row of closely spaced transverse impressions from the same plain bar-stamp. This ornament terminates at one end with a simple diagonal cross, and at the other with a diagonal cross which is formed by a pair of stamps, crossed with a single stamp; the terminals themselves are plain.

Nicks: 6 (2 nicks, and 2 pairs of slices). D 7.0; H 1.2–0.4; T 0.3–1.5cm. Wt 49.3g.

This silver arm-ring is one of three unprovenanced antiquities seemingly purchased by A.W. Franks, for the Museum, during a trip to Ireland in October 1853 (see above, p. 3), from a Mr Wilkin of Mullingar, the county town of Westmeath. Wilkin is unknown as a mid-nineteenth-century Irish antiquarian/collector and was not, for instance, an exhibitor at either the Belfast (1852) or Dublin (1853) exhibitions (cf. **17**). On the other hand, Isaac Slater's *Commercial Directory* identifies a Mr James Wilkins as a watch- and clock-maker operating in Gaol Street, Mullingar, in 1846, who is doubtless the same person as the Mr James Wilkin who was watch- and clock-maker in Main Street, Mullingar, a decade later. Given that this Mr Wilkin(s) can have been no more than a part-time dealer in antiquities, it is reasonable to suppose that items passing through his hands had been found within the surrounding region, from which local people would have been accustomed to travel to their county town. It may therefore be suggested that this silver arm-ring can tentatively be attributed to 'Co. Westmeath'.

Bøe 1940, 135.

23 Unprovenanced: from 'the North of Ireland'

MME: 1871,0401.16. Purchased from Sir Thomas Tobin, Ballincollig, Co. Cork, in 1871; found in 1856.

23 Silver penannular arm-ring (MME: 1871,0401.16)

Plain Hiberno-Scandinavian broad-band arm-ring, of rectangular section (**Pl. 81**). It tapers smoothly, in both width and thickness, from its mid-portion to rectangular terminals which are everted; one end has been broken off and re-attached with solder.

Nicks: 14 (on inner angles). D 7.4; H 1.85–0.95; T 0.4–0.3cm. Wt 90.7g.

This silver arm-ring is illustrated on a nineteenth-century lithograph of antiquities, 'In the possession of Sir Thomas Tobin, F.S.A., Ballincollig, near Cork', captioned 'Found in the North of Ireland, 1856'. It was one of seventeen items purchased from Tobin in 1871 (including **17**) and was exhibited in both *A Silver Saga*, at Liverpool Museum (Philpott 1990, 71), and *Vikings: the North Atlantic Saga* in North America (Fitzhugh and Ward (eds) 2000, fig. 8.3, where it is wrongly identified, on p. 421, as MME: 54,1227.62 = **8:1**).

Lithograph (Cork, n.d.): copy preserved in the Society of Antiquaries of London's scrapbook, *Primaeval Antiquities*, p. 151; Bøe 1940, 135; Philpott 1990, 71; Fitzhugh and Ward (eds) 2000, 130, fig. 8.3 (colour).

24 Unprovenanced

MME: 1897,0323.8. Purchased from Rollin & Feuardent in 1897, from the collection of Lord Hastings; found in or before 1859.

24 Silver penannular lozenge-rod arm-ring (MME: 1897,0323.8)

Arm-ring of plain 'ring-money' type, formed from a rod of rectangular section, tapering slightly to flat terminals with rounded ends (**Pl. 81**). There are three nicks across one angle (one double).

Nicks: 3. D 5.9; H 0.5; T 0.6cm. Wt 19.0g.

This small silver arm-ring was purchased by the Museum in 1897, from Rollin & Feuardent, together with other antiquities including hoard (**11**), which had formed part of the collection of Lord Hastings, 16th Baron, who died in 1859. When acquired by Hastings it was mounted on a card (which is preserved in MME: Object-file) inscribed: 'Early British Armlet found in Ireland' (and numbered 'Lot 301'). This card is identical in form to that on which his two silver arm-rings 'from Ireland' (**11**) were mounted and so, given that both have printed lot numbers in the same sequence and that both are marked on the reverse with a similar dealer's price-code, it is most probable that Hastings acquired them together from the same source.

Sheehan 1982, 103 (note 12).

UNPROVENANCED

25 Unprovenanced

MME: OA 10303. Acquisition unrecorded; probably found in or before 1851.

25 Silver penannular arm-ring (MME: OA 10303)

Hiberno-Viking broad-band arm-ring, with stamped decoration (**Pl. 78**); described above (as **16:3**).

It is not known how or when this silver arm-ring was acquired by the Museum and nothing is recorded concerning its provenance. On the other hand, it is decorated with the same two stamps as one of the two unprovenanced arm-rings from Scotland (**16:1**), purchased by A.W. Franks at the Edinburgh sale of C.K. Sharpe's collection (June 1851); given that there are also other reasons for supposing that all three of these rings were formerly associated (Graham-Campbell and Sheehan 1995), it has been catalogued together with them (**16:3**).

(iii) Finger-rings (26–36)

ENGLAND

26 Balmer, E. Sussex

MME: 1853,0412.71. Purchased from R.T. Mantell (ex-Gideon Mantell collection), in 1853; found in or before 1824.

26 Gold annular twisted-rod finger-ring (MME: 1853,0412.71)

Finger-ring formed from two twisted gold rods of square section (0.3 x 0.3cm), tapering to ends which are hammered together into a plain band (**Pl. 82**); the band has a slightly expanded mid-portion (0.4 x 0.1cm).

Nicks: 2. D 2.9 x 3.0cm. Wt 16.8g.

This gold finger-ring was first illustrated in 1824 around some finger-bones, although only described as having been 'ploughed up' (Horsfield 1824, I, 49, pl. iv,4), when it was provenanced to 'Bormer', an archaic spelling for the modern 'Balmer'. It was exhibited to the Society of Antiquaries of London, on 5 February 1846, by Dr Gideon Algernon Mantell (1790–1852), the surgeon and 'archaeo-geologist' (H.S. Torrens in Brand

(ed.) 1998, 49), when it was stated that: 'It was ploughed up on the Sussex downs, near Falmer, and was presented to Dr. Mantell by the late Earl of Chichester' (*Proceedings of the Society of Antiquaries of London* i (1849), 117; as also reported in *Archaeological Journal* iii (1846), 270). Mantell himself wrote, in his book about Lewes (1846, 133, note), that: 'I have a beautiful gold ear-ring, of Saxon workmanship, from a tumulus near Stanmer Park, presented to me by the late Earl of Chichester'; Thomas Pelham, second earl of the third creation, died in 1826.

After his death, Gideon Mantell's collection was purchased by the Museum, in 1853, from his son. Its 'more remarkable objects' were published the following year by A.W. Franks (1854, 23), including this ring (*ibid*., 28 and fig.) which had previously been illustrated by Albert Way (1849, 58, fig. 15). It was omitted by Dalton from his (1912) *Catalogue of Finger Rings in the British Museum*, but was subsequently listed as being from 'Bormer'.

Horsfield 1824, I, 49, pl. iv,4; *Archaeological Journal* iii (1846), 270; Mantell 1846, 133, note; *Proceedings of the Society of Antiquaries of London* i (1849), 17; Way 1849, 58, fig. 15; Franks 1854, 28 and fig; Bjørn and Shetelig 1940, 29; Hinton 1978, 156, no. 24; Graham-Campbell 1988a, 266.

27 Near Lewes (Hamsey/ Ringmer), East Sussex

MME: AF 537. Franks (1897) bequest (ex-Soden Smith collection); found in 1856.

27 Gold annular plaited-rod finger-ring (MME: AF 537)

Finger-ring formed from three plaited gold rods, slightly tapering (D 0.15–0.1cm) towards ends which are hammered together to form plain narrow bands (0.2 x 0.1cm), the ends of which are imperfectly joined (**Cat. Fig. 43** and **Pl. 82**).

Nicks: 1 (inside ring). D 2.6cm. Wt 7.8g.

Cat. Figure 43 Gold annular finger-ring (**27**), from near Lewes, East Sussex, of three plaited rods (after Dalton)

This gold finger-ring, which A.W. Franks acquired from the collection of R.H. Soden Smith (1822–90), is recorded in the Museum as having been 'found in Hamsey Churchyard, Sussex' (Dalton 1912, 36, no. 215a = **Cat. Fig. 43**); Hamsey is located 2 miles (3km) north of Lewes. It is, however, to be identified with:

> A ring of very pure gold, found in the autumn of last year [1856], in the parish of Ringmer, near Lewes. It weighs 5 dwts. 6 grs., and is now in the possession of John Tattersal Auckland, Esq., F.S.A. (Figg 1857, 373, fig. 2)

Ringmer is 3 miles (4km) north-east of Lewes. John Tattersal Auckland was a Lewes solicitor and antiquarian, who died in 1862, and William Figg was a local cartographer (Thomas 2003, 130, note 4).

In 1862, when the ring was in the possession of Joseph Davey, Esq., it was exhibited at the South Kensington Museum and was catalogued, once again, as a 'Torc ring of very pure gold, turned up by the plough, in the parish of Ringmer, near Lewes, in 1856. Weight, 5 dwts. 6 grains.' (Robinson (ed.) 1863, no. 7,204). A decade later, it was exhibited for a second time at the South Kensington Museum, by when it had been acquired by Soden Smith who published its provenance as 'Found in Hamsey churchyard, Sussex' (1873, no. 893).

The conflict between these two attributions cannot readily be resolved because, immediately to the east of Hamsey church, the river Ouse marks the boundary between the parishes of Hamsey and South Malling and, although the parishes of Hamsey and Ringmer do share a boundary upstream of the church (along a former meander of the Ouse), this is well beyond the limits of the churchyard (Thomas 2003, fig. 2). On the other hand, the field adjacent to Hamsey churchyard has produced other metalwork contemporary with this finger-ring (*ibid*., 123–5, fig. 1), for which reason Gabor Thomas prefers 'the more specific of the two attributions, especially given the paucity of Late Saxon ornamental metalwork from the Ringmer/Lewes area generally' (*ibid*., 130, note 4).

However, both the earliest published references are to Ringmer, and the mention of the ring being ploughed up clearly casts some doubt on its having a churchyard provenance, although ploughing in the field adjacent to Hamsey churchyard is known to have disturbed medieval remains as early as the eighteenth century (Thomas 2003, 131, note 13).

Figg 1857, 373, fig. 2; *Archaeological Journal* xv (1858), 96 and fig; Robinson (ed.) 1863, 637, no. 7,204; Soden Smith 1873, 76, no. 893; Dalton 1912, 36, no. 215a and fig; *BM Anglo-Saxon Guide* (1923), 117; Bjørn and Shetelig 1940, 29; Hinton 1978, 158, no. 26; Graham-Campbell 1988a, 266; Thomas 2003, 126, 130 (note 4).

28 Harwich, Essex

MME: 1871,0302.2. Purchased from P. Albert, London, in 1871; found in or before 1871.

28 Gold penannular rod finger-ring (MME: 1871,0302.2)

Finger-ring formed from a single gold rod of D-shaped section, with butt-ended terminals and a row of stamped decoration (**Pl. 82**). There are fifteen stamp impressions, a few of which are double struck, but the ornament is cast; the stamp itself is concave sided, containing a vertical row of three pellets (**Fig. 8.2,115**).

Nicks: 0. D 2.5; H 0.4; T 0.3cm. Wt 11.6g.

The only information known concerning this gold finger-ring, which was purchased together with seven other rings in 1871, is that contained in the Register: 'Found at Harwich, Essex'. It was omitted by Dalton from his (1912) *Catalogue of Finger Rings in the British Museum*, but was listed by Bjørn and Shetelig (1940, 30), and again by Hinton (1978, no. 41).

Bjørn and Shetelig 1940, 30; Hinton 1978, 158, no. 41.

29 Oxford (Queen Street), Oxfordshire

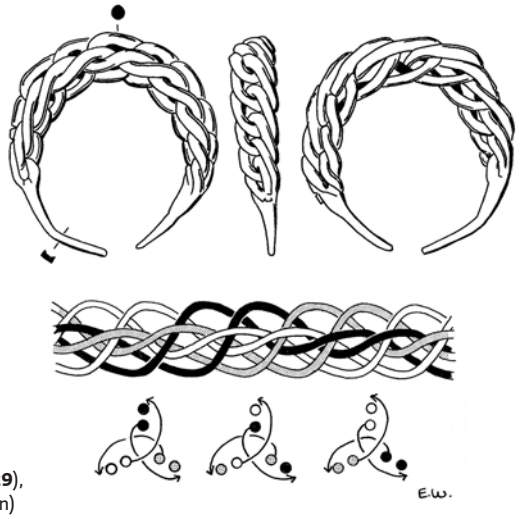
MME: 1905,1108.1. Purchased from Arthur M. Robinson, Birkenhead, in 1905; found in about 1877–8.

29 Gold annular plaited-rod finger-ring (MME: 1905,1108.1)

Finger-ring formed from six plaited gold rods (as in **Cat. Fig. 44**), of circular section and tapering towards the ends (D 0.2–0.1cm) which are beaten together to form a plain narrow band; this has parted in one place, but presumably in antiquity because both ends are smooth, even though one is straight and the other irregular in form (**Pl. 82**).

Nicks: 0. D 2.6cm. Wt 12.9g.

This gold finger-ring was exhibited to the Society of Antiquaries of London, on 5 February 1903, when in the possession of William Wharton Robinson; it was then stated to have been 'found about 1890 in a stone coffin in St. Aldate's Street, Oxford, when excavations were being made for a



Cat. Figure 44 Gold annular finger-ring (**29**), from Oxford, of six plaited rods (Eva Wilson)

drain opposite the great gateway of Christ Church' (Proceedings of the Society of Antiquaries of London 2nd ser. xix (1901–3), 221). This is the same provenance given to it when purchased by the Museum, in 1905 (Dalton 1912, 36, no. 214), from his nephew and heir, Arthur M. Robinson of Birkenhead, and which it has since retained (Graham-Campbell 1988a; 1990), although Bjørn and Shetelig (1940, 29) managed to confuse its find circumstances with those of a medieval gold ring from Hertfordshire.

However, when first published in 1895, this Oxford finger-ring was illustrated as a 'Torque-ring found 15 feet deep in Queen Street' (*Archaeologia Oxoniensis 1892–1895*, 'List of illustrations', 5 and 6, fig. 1) and was catalogued as: 'Torque Ring of Gold, plaited', found in 'Queen Street; twelve feet below surface, in a pit dug into the gravel six feet'; it was then in the possession of 'Mr. Axtell, Sen.' (*ibid.*, 50, no. 31). Not long afterwards, it featured in Herbert Hurst's *Oxford Topography* (1899, 90), but together with the additional information that it had been found 'near the south-east angle of Messrs. Hyde's factory … about forty years ago, at the rebuilding of the factory'. Thomas Axtell (1826–1901) was Oxford's leading master-builder during the late nineteenth century, when a partner in Symm & Co., and is known to have discovered and preserved other archaeological finds (David Sturdy, pers. comm.).

Hyde and Franklin's clothing factory (Nos 31–2 Queen Street) had been extended in 1869 (*Jackson's Oxford Journal*, 17 April and 16 October 1869), but a more likely occasion for the discovery of this ring would have been somewhat later, in 1877–8, when Symm's rebuilt the front part of Hyde's premises (Oxford City Archives, *Engineer's Drawings* old series 231), given the 1907 newspaper reference, quoted below, to it having been found 'near the kerbstone' (David Sturdy, pers. comm.).

When, in 1921, E.T. Leeds published the late Percy Manning's 'Archaeological survey of Oxfordshire', he believed that two such gold rings had been found in Oxford (Manning and Leeds 1921, 253): one from St Aldate's, and the other from Butcher Row (being the old name for Queen Street), citing the *Proceedings of the Society of Antiquaries of London* (1903) for the former, and the *Oxford Times* (25 May 1907) for the latter. Leeds repeated this duplication in *VCH: Oxfordshire*, I (1939, 368, 371) and was followed both by E.M. Jope, in his list of late Saxon metalwork from Oxford (1953, 109, nos 22–3), and by David Hinton (1978, 156, nos 20–1). However, none of these authors makes any reference to the publication of the Queen Street ring in *Archaeologia Oxoniensis 1892–1895*.

The Queen Street ring was featured in the *Oxford Times*, for 25 May 1907, in order to illustrate 'the earliest page of Oxford history' in connection with 'the first episode of the Pageant', accompanied by an enlarged 'drawing, partly a diagram', seemingly after the photograph previously published in *Archaeologia Oxoniensis 1892–1895*. This article states that:

> We all know the Queen-street, once the Great Bailly and then the Butcher-row, as an urban, time-worn road from Carfax to the Castle. A little Keltic ring was found in it, with the hand it had decked, disclosed by the workman's spade almost at the moment the concrete was slipping from the barrow on the plank above… The ring was found at a depth of fifteen feet, showing that some ages had passed to add to the five or six feet of dug-out earth, or added mound, in which we may suppose the body to have been at first deposited. The museums of Western Europe can render account of not more than three or four of its compeers, and the most modest of archaeologists would fix from the fifth to the third century B.C. for its date. A ring, a grave, for such it was, and that is all. The spot is near the kerbstone at the south-west angle of Mr. Hyde's factory.

The author of this piece was clearly of the opinion that this ring was unique, commenting that it 'stands pre-eminent for age and rarity among the Oxford discoveries'. He knew it to have been in private possession, and may even have been aware that it had left Oxford (but obviously not for London), because he ends with the invocation: 'Hunt up the present owner'.

Information concerning the intermediate pedigree of this finger-ring is contained in a letter, dated 21 January 1903, now on file in the Department of Prehistory and Europe (*Correspondence File*, 1905), written by William Robinson, the Coroner for Central Oxfordshire (who died on 18 July 1905), to his nephew:

> The history of it is:–
>
> That when (about 1890) a Drain was being constructed in Saint Aldate's Street and at a spot in that Street nearly opposite to Tom Gateway of Christ Church the Ring was then found at a depth of about 12 feet by Axtell who was engaged in excavating for the Drain – and he kept it until his death in 1900 – At his death the Ring was amongst other articles divided between his Sons – and the Son to whom the Ring was so allotted very soon disposed of it. He sold it to Owen George Roe (deceased) an Antique Dealer who called on me and gave me these Particulars – Roe said he should not (as he formerly did) show it to Mr Arthur John Evans the Keeper of the Ashmolean Museum as he had on the last transaction Roe had with him done what had much displeased Roe and therefore he offered to sell the Ring to me – I paid him £10 for it. No one else had then seen it –

In conclusion, there are no grounds for following Manning and Leeds in their belief that two gold finger-rings had been found in Oxford, in the late nineteenth century, for it is evident from the above sources that the only ring on record is, in fact, the one found by Axtell which is now in the British Museum. It is thus necessary to reject the (1903) St Aldate's provenance for this finger-ring in favour of the Queen Street location, as first documented in 1895 and 1899, given that the St Aldate's provenance only derives (after Axtell's death) from an Oxford antique dealer.

Archaeologia Oxoniensis 1892–1895 (London, 1895), 5, 6, fig. 1, and 50, no. 31; Hurst 1899, 90; *Proceedings of the Society of Antiquaries of London* 2nd ser. xix (1901–03), 221; *BM Correspondence File*, MME (1905: N–R): letters from A.M. Robinson (dated 2, 4, 17 and 18 August 1905, including a letter from W.W. Robinson (dated 21 January 1903); *Oxford Times* (25 May 1907), 'Illustrated stories of the Pageant episodes', with fig; Dalton 1912, 36, no. 214; Manning and Leeds 1921, 253; *BM Anglo-Saxon Guide* (1923), 117; *VCH: Oxfordshire*, I (1939), 368, 371; Bjørn and Shetelig 1940, 29; Jope 1953, 109, nos 22–3; Hinton 1978, 156, nos 20–1; Graham-Campbell 1988a (reprinted 1990).

30 Saddleworth, Yorks (Greater Manchester)

MME: 1915,1206.1. Given by Herbert Horsfall, Springhead, near Oldham, in 1915; found in 1914.

30 Gold annular coiled-rod finger-ring (MME: 1915,1206.1)

Finger-ring of double-coiled type, with twisted ends and stamped decoration (**Pl. 82**). The single gold rod is of plano-convex section (D 0.2cm), with a continuous row of plain opposed triangle, or 'hour-glass', stamping around its outer face; this tapers to plain ends, which are twisted separately around the hoop. There are two substantial nicks on the inside of the ring as well as some multiple minor pecking.

Nicks: 2 (+24?). D 2.4cm. Wt 7.1g.

According to the letter (dated 8 April 1915), from Herbert Horsfall, that accompanied his donation of this gold finger-ring to the Museum (*BM Correspondence File*, MME: 1915):

> Sometime in February 1914 when rambling in the Saddleworth district (Yorks) with my friend Mr. J. Robinson 101 Windsor Rd. Oldham we found the enclosed ring. It was found in the river bed at the foot of Chew Valley, Saddleworth, being quite visible among the boulders and sand in the water.

A note in the Register adds the information that:

> A printed card with illustration of this ring in the Tolson Memorial Museum, Huddersfield reads: "Facsimile of a pure gold ring of the Viking period found in the bed of the river at Nutbottom, Greenfield, February 1914".

Today, Greenfield Reservoir is on Saddleworth Moor, 6 miles (10km) east of Oldham, Greater Manchester.

The ring itself was exhibited in *A Silver Saga* at Liverpool Museum in 1990, with Saddleworth located in Lancs (Philpott 1990, 67), but its only published illustration to date mistakenly identifies it as being made of silver (Sheehan 1992a, pl. 6).

BM Correspondence File, MME (1915:G–M): letter from H. Horsfall (dated 8 April 1915); Philpott 1990, 67; Sheehan 1992a, 41, pl. 6; Graham-Campbell and Sheehan 2009, 77.

31 Near Thaxted, Essex

MME: AF 536. Franks (1897) bequest (ex-Braybrooke collection); found in 1847.

31 Gold penannular rod finger-ring (MME: AF 536)

Finger-ring formed from a single plain gold rod of circular section, tapering considerably (D 0.6–0.2cm) to its terminals, with flat ends, which are slightly overlapping (**Pl. 82**).

Nicks: 6 (on outer faces). D 2.6 cm. Wt 15.3g.

When first published, it was stated by Albert Way (1849, 57, fig. 8) that this gold finger-ring 'was recently found by a labouring man named Bass, on the Dairy Farm, Thaxted, in Essex'; it was then 'preserved in the valuable Museum formed by the Hon. Richard Neville, at Audley End'. In the privately printed *Catalogue* of Neville's collection (pp. 9–10, no. 38), it is further recorded as having been 'ploughed up on the dairy farm, Richnal Green, near Thaxted, Essex, April, 1847.' The ring was amongst those exhibited by Neville (1820–61), shortly after he had succeeded his father to become the fourth Baron Braybrooke (1858), while chairing a meeting of the (Royal) Archaeological Institute, of which he was then Vice-President, on 3 June 1859 (*Archaeological Journal* xvi (1859), 358 and fig.).

Franks acquired this ring, with the rest of the Braybrooke collection, in 1886 (Cherry 1997, 192), and it formed part of his bequest to the Museum in 1897; it was not, however, included by Dalton in his (1912) *Catalogue of Finger Rings in the British Museum*. It was mentioned in the Museum's *Anglo-Saxon Guide* (1923, 117), as a parallel for the form of one of the gold finger-rings from the Soberton hoard (**7:2**), and was subsequently listed by Bjørn and Shetelig (1940, 30), but not by Hinton (1978).

Way 1849, 57, fig. 8; *Catalogue of Rings in the Collection of the Honorable Richard Cornwallis Neville* (n.d.), 9–10, no. 38; *Archaeological Journal* xvi (1859), 358 and fig; *BM Anglo-Saxon Guide* (1923), 117; Bjørn and Shetelig 1940, 30.

32 West Bergholt, Essex

MME: 1870,0402.77. Purchased from the Rev. J.H. Pollexfen, Colchester, in 1870; found in or before 1863.

32 Gold annular twisted-rod finger-ring (MME: 1870,0402.77)

Finger-ring formed from two gold rods of circular section (D 0.2cm) twisted together, alternating with two strips, which had been individually twisted first (**Pl. 82**). The ends are hammered together to form a plain rod (D 0.2cm) on which there are four nicks, with a fifth on the inside of the ring opposite.

Nicks: 5. D 2.5cm. Wt 9.7g.

This gold finger-ring is registered, together with nos 72–108, as 'found at Colchester', but it is more precisely located to 'West Bergholt, Essex' by Dalton (1912, 36, no. 212), following the provenance provided by the Rev. J.H. Pollexfen, its earliest recorded owner (from whom it was purchased by the Museum in 1870), on the occasion when he exhibited it to the Society of Antiquaries of London, on 16 April 1863 (*Proceedings of the Society of Antiquaries of London* 2nd ser. ii (1861–4), 247 and fig.). West Bergholt is situated 3 miles (4km) north-west of Colchester.

Proceedings of the Society of Antiquaries of London 2nd ser. ii (1861–4), 247 and fig; *VCH: Essex*, I (1903), 327, fig. 11; Dalton 1912, 36, no. 212; *BM Anglo-Saxon Guide* (1923), 117; Bjørn and Shetelig 1940, 30; Hinton 1978, 156, no. 17.

33 Weston Turville, Bucks

MME: 1922,1009.1. Purchased from Catherine Lady Wake, Weston Turville, in 1922; found in 1922.

33 Gold annular twisted-rod finger-ring (MME: 1922,1009.1)

Finger-ring formed from four tightly twisted gold rods, tapering slightly towards their ends (D 0.3–0.2cm); these are hammered together to form a narrow oblong band, which is flat and plain (**Pl. 82**). The rods consist of two plain thick ones alternating, in the twist, with two thin ones, which had been individually twisted first. The ring is in worn condition.

Nicks: 3 (2 slight). D 2.4cm. Wt 5.5g.

According to the British Museum Register, this gold finger-ring was found 'within 10 yds of stream', to the west of the Manor House at Weston Turville, near to the public footpath.

Records of Buckinghamshire xi, no. 5 (1923), 220–1; Bjørn and Shetelig 1940, 29; Hinton 1978, 156, no. 14.

IRELAND

34 Near Drogheda, Co. Louth

MME: 1849,0301.27. Purchased from William Anthony, London (ex-Redmond Anthony collection, Piltown, Co. Kilkenny), in 1849; found in or before 1845.

34 Gold annular coiled-rod finger-ring (MME: 1849,0301.27)

Finger-ring of double-coiled type, with twisted ends and stamped decoration (**Pl. 83**). The single gold rod has a continuous row of plain X-shaped stamping around its outer face (**Fig. 8.4,6**), which results in a beaded appearance; this tapers towards plain ends which are twisted separately around itself a couple of times, on either side of a short length of plain rod (D 0.2cm). The ring is in excellent condition, with no nicks.

Nicks: 0. D 2.5cm. Wt 8.7g.

This gold finger-ring is first recorded as no. 26 in 'Mr Anthony's Bog Oak Case of Gold Antiquities', in its 'Top Tray No. 1' (Cahill 1994), listed as 'found in the North of Ireland (near Drogheda) Curious Chased back' (*ibid.*, 99). According to Cahill (*ibid.*, 56), Redmond Anthony's manuscript list of the contents of his 'Bog Oak Case' dates from 'after October 1843 and before February 1845'.

The ring was among the 'choice assemblage of Early Irish ornaments, &c.', from 'the collection of the late Mr. Anthony', that was exhibited to the meeting of the (Royal) Archaeological Institute held at Lincoln in July 1848, although simply listed in the *Memoirs* … (1850, xxxiii), as one of 'three torque-rings' (including **35**). The complete 'choice assemblage' was subsequently purchased by the Museum from his son, William, in 1849 (see **21**, for further details). This ring was not, however, included by Dalton in his *Catalogue of Finger Rings in the British Museum* (1912), and it may have been for this reason that it escaped the attention of Bøe, who likewise omitted it from his (1940) catalogue of 'Norse antiquities in Ireland'.

Memoirs illustrative of the History and Antiquities of the County and City of Lincoln, communicated to the Annual Meeting of the Archaeological Institute of Great Britain and Ireland, held at Lincoln, July, 1848 (1850), xxxiii; Cahill 1994, 98, 99, 102, 103, 107 (note 40).

35 Near Waterford, Co. Waterford

MME: 1849,0301.20. Purchased from William Anthony, London (ex-Redmond Anthony collection, Piltown, Co. Kilkenny), in 1849; found in 1835.

35 Gold annular plaited-rod finger-ring (MME: 1849,0301.20)

Finger-ring of six plaited gold rods, slightly tapering towards the ends (D 0.15–0.1cm); these are hammered together to form a flat oblong band (now broken at one end), which is decorated with a row of three incised dots (**Cat. Fig. 45** and **Pl. 83**). There is one substantial nick in the outer face, to one side, and a group of about four small slices from the front.

Nicks: 5. D 3.25cm. Wt 12.9g.

Cat. Figure 45 Gold annular finger-ring (**35**), from near Waterford, of six plaited rods, when in Redmond Anthony's collection (cf. **Cat. Fig. 42**), with **21** (Royal Irish Academy)

The earliest publication of this gold finger-ring consists of its representation, captioned 'Found near Waterford in 1835', on a lithograph dated 'Cork, 1845', together with the 'Virginia' gold arm-ring (**21**: **Cat. Figs 42** and **45**; as reproduced in Cahill 1994, pl. xviii); both rings were then in the Piltown Museum, Co. Kilkenny, of Redmond Anthony's antiquities. It was presumably a copy of this lithograph that was sent by Edward Hoare, the Cork antiquarian, to Albert Way in London, for communication to the (Royal) Archaeological Institute (*Archaeological Journal* v (1848), 155), for this would seem to have formed the basis for Way's

own illustration of the ring which he published the following year (1849, 58, fig. 13). The latter was sent by Way to Daniel Wilson, in Toronto, accompanying a letter (dated 11 March 1850) concerning finds of gold ornaments in Scotland, for comparative purposes (*Archaeological Scraps*).

The ring was no. 8 in 'Mr Anthony's Bog Oak Case of Gold Antiquities', in its 'Top Tray No. 1' (Cahill 1994), listed simply as 'Found near Waterford' (*ibid.*, 99), and is to be identified with that referred to by Anthony in his (1837) letter to Dean Dawson, quoted above (under **21**). It was among the 'choice assemblage of Early Irish ornaments, &c.', from 'the collection of the late Mr. Anthony', that was exhibited to the meeting of the (Royal) Archaeological Institute held at Lincoln in July 1848, when it was simply listed (together with **34**), in the *Memoirs …* (1850, xxxiii), as one of 'three torque-rings'. The complete 'choice assemblage' was subsequently purchased by the Museum from his son, William, in 1849 (see **21**, for further details).

This finger-ring was republished by Dalton (1912, no. 213) and later illustrated with a photograph by Bøe (1940, fig. 72). It was included in both the Museum's exhibition of *Jewellery through 7000 Years* (Tait (ed.) 1976, no. 461) and *A Silver Saga* at Liverpool Museum (Philpott 1990, 71).

Lithograph (Cork, 1845): copies are preserved in the Royal Irish Academy's *Specimen Book* (Clibborn Scrapbook, p. 4; presented by Dr Aquilla Smith, 12 July 1846), *Archaeological Miscellania* (Portfolio I, sheet 1,c), and Windele MS. 12.C.1, p. 386; *Archaeological Journal* v (1848), 155; Way 1849, 58, fig. 13; Daniel Wilson, *Archaeological Scraps* (MS.), Toronto Metropolitan Library, Canada; *Memoirs illustrative of the History and Antiquities of the County and City of Lincoln, communicated to the Annual Meeting of the Archaeological Institute of Great Britain and Ireland, held at Lincoln, July, 1848* (1850), xxxiii; Dalton 1912, 36, no. 213; *BM Anglo-Saxon Guide* (1923), 117; Bøe 1940, 105, fig. 72; Tait (ed.) 1976, 264, no. 461 and fig; Graham-Campbell 1988a, 264; Philpott 1990, 71; Cahill 1994, 98, 99, 102, 103, 104 (note 6), pl. xviii; Sheehan 1998b, 163.

SCOTLAND

36 Tundergarth, Annandale, Dumfries and Galloway

MME: AF 466. Franks (1897) bequest; found before 1897.

36 Gold annular band-shaped finger-ring (MME: AF 466)

Finger-ring consisting of a broad gold band, of convex section, tapering to rods at its ends (D 0.15cm), which are twisted together into a whirled knot (**Pl. 83**); it is decorated with four different stamps (Graham-Campbell 1995, fig. 63). The front has two bands of stamped ornament separated by a plain field, between two rows of 'beading' which is created with a (lozenge) variant of the plain opposed-triangle stamp (**Fig. 8.2,67**); the edges of the ring are 'beaded' in the same manner, as are the terminal rods. At either end of the front a pair of plain triangles (**Fig. 8.2,6**) is stamped beside a pair of rings (**Fig. 8.3,40**); these, when viewed from the side, form an animal-mask with triangular ears above circular eyes. The main bands are created with a plain variant of the lozenge-on-triangle stamp (**Fig. 8.2,29**), the area between being punched with a pair of the ring stamps to give the impression of a row of pendant animal-heads. There is considerable wear on the outer face, but otherwise the ring is in excellent condition, with a couple of tiny nicks on one edge.

Nicks: 2. D 2.6; W 1.5cm. Wt 14.45g (from Graham-Campbell 1995, no. S9).

Nothing is known concerning this gold finger-ring before it entered the Franks collection, where it is listed as 'Found at Tundergarth, Annandale, Dumfriesshire' (Dalton 1912, 35, no. 208, pl. ii). It was omitted by Grieg from 'Viking antiquities in Scotland' (1940), appearing only in Stevenson's 'Addenda' (Shetelig (ed.) 1954, 237), but it was included in both *The Vikings* exhibition (Graham-Campbell and Kidd 1980, no. 231; Graham-Campbell 1980, no. 239) and *A Silver Saga* (Philpott 1990, 69).

Dalton 1912, 35, no. 208, pl. ii; Shetelig (ed.) 1954, 237; Oman 1974, 91, pl. 8,c; Graham-Campbell 1976a, 131; 1980, 65, no. 239; Graham-Campbell and Kidd 1980, 196, no. 231; Philpott 1990, 69; Graham-Campbell 1995, 30, 157–8, no. S9, fig. 63, pl. 73,c–d.

C. BROOCHES (37 & 38)

ENGLAND

37 Near Penrith, Cumbria

MME: 1904,1102.3. Bequeathed by William Forster, Carlisle, in 1904; found in 1830.

37 Silver 'thistle-brooch' (MME: 1904,1102.3)

Ball-type penannular brooch, with brambled and engraved (interlace) ornament, although one terminal is missing (**Pls 56–7**); described above (as **2:2**).

Although a single-find on the occasion of its discovery in 1830, near Penrith (see map: **Cat. Fig. 33**), this silver brooch is catalogued above (together with **38**, which was found in 1785), as most probably having formed part of the Flusco Pike (no. 1) coinless hoard, from 1989 (**2:2**).

The earliest known description of this brooch is that published in connection with its exhibition, in 1859, to the (Royal) Archaeological Institute at their meeting held in Carlisle, when it was in the possession of 'Mr. J. Teather, Alstonby'. R.A. Smith was of the opinion that it was then complete (1906, 68), on the basis of the entry in the Carlisle *Catalogue* (p. 15):

> A silver penannular ring-brooch, with an *acus* of extraordinary length, (about 20 inches) found in a field near Penrith in 1830. At the end of the *acus* through which the ring passes, and also at each extremity of the ring itself, there was a massive globular ornament, richly ornamented, the triangular interlaced figure, called the *triquetra*, occurring on Anglo-Saxon coins, being repeatedly introduced.

The whereabouts of this brooch were unknown to both R.S. Ferguson of Carlisle (1887, 142) and W.G. Collingwood (in *VCH: Cumberland*, I (1901), 283), so that its subsequent history remains a mystery until it was bequeathed to the British Museum in 1904, by William Forster of Carlisle, with one of its terminals missing. Shortly afterwards it was discussed and illustrated (together with **38**), by Reginald Smith (1906, 68 and plate, fig. 2; see also Shetelig 1933, 146, fig. 49; Bjørn and Shetelig 1940, 46 and 50, fig. 16; Shetelig 1948, 76, fig. 5). There is a replica in the Tullie House Museum, Carlisle (reg. no: 7–00–3; Cowen 1934, 183, 184, pl. iv,3). The original brooch formed part of the British Museum's special exhibition on *Jewellery through 7000 Years* (Tait (ed.) 1976, no. 209).

Catalogue of the Archaeological Museum formed at Carlisle during the Meeting of the Archaeological Institute of Great Britain and Ireland (Carlisle, 1859), 15; Ferguson 1887, 142 (reprinted as Ferguson 1889, 280); *VCH: Cumberland*, I (1901), 283; Smith 1906, 68 and plate, fig. 2; *BM Anglo-Saxon Guide* (1923), 104; Shetelig 1933, 146, fig. 49; Cowen 1934, 183, 184, pl. iv,3; Bjørn and Shetelig 1940, 46, 50, fig. 16; Shetelig 1948, 76, fig. 5; Tait (ed.) 1976, 138, no. 209; 1986, 109, fig. 248; Edwards 1992, 49–50, no. 14; Richardson 1996, 36, 42, note 10; Edwards 1998, 33–4, fig. 17; Graham-Campbell 2001b, 213, 224, no. 11; Johnson 2001, 335, 340.

38 Near Newbiggin, Penrith, Cumbria

MME: 1909,0624.1. Purchased from Rollin & Feuardent, London, in 1909; found in 1785.

38 Silver 'thistle-brooch' (MME: 1909,0624.1)

Ball-type penannular brooch, with brambled and compass-incised ornament (Pls 54–5); described above (as **2:1**).

Although a single-find on the occasion of its discovery in April 1785, near Newbiggin in Cumberland (see map: **Cat. Fig. 33**), this silver brooch is catalogued above (together with **37**, which was found in 1830) as most probably having formed part of the Flusco Pike (no. 1) coinless hoard (**2:1**), from 1989, particularly given that the first published reference to it (in May 1785) states that it was found at (the miss-spelt) 'Huskew Pike', in a location that came to be known as 'Silver Field' (see below).

The earliest known account of the discovery of this 'thistle-brooch' is contained in an illustrated communication by the Rev. Dr Douglas, dated 28 April 1785, sent by him to the Society of Antiquaries of London in advance of the exhibition of the 'Silver Instrument' itself, which took place soon afterwards, on 16 June (*Society of Antiquaries of London: Minutes Book*, vol. XX). It states:

> The above is a Drawing of a Curiosity found about a Week ago in a New enclosed Field belonging to Mr Thos Mattinson of Newbiggin near Penrith by his Boy (who was Harrowing in the Corn) in a Furrow at the depth of about seven Inches from the Surface in a Well Boggy place, it is of Silver and weighs about 25 Oz. avoirdupois wt.

At about the same time, 'W.H.' of 'B.C.' (William Hutchinson of Barnard Castle) wrote to *The Gentleman's Magazine* (May 1785, 347), as follows:

> I send you the drawings of a fibula of uncommon magnitude and weight, found in April last, at *Huskew Pike*, an eminence distant from *Penrith in Cumberland* about three miles, on the Keswick Road.

It was there illustrated in print for the first time (*ibid.*, 332, fig. 8), but it was shortly afterwards depicted again, in a book by James Clarke, in a far larger and more detailed engraving (dated 30 February 1787). This was published in the second edition of his *Survey of the Lakes* (Clarke 1789, pl. v), where it is stated that it was 'now in the possession of Mr. Joseph Clarke, who purchased it as soon as it was found' (*ibid.*, 46):

> We next come to some new inclosures, where a common called *Fluskew* was divided A.D. 1773 among a number of proprietors…Not far from [an hill called *Fluskew-Pike*]…In the year 1785 they found a curious instrument of silver.

Clarke went on to state that 'the length of the spear or tongue is 22 inches' (*ibid.*), which is considerably longer (at *c.* 56cm) than its present length of 51.2cm, but that must be an exaggeration given that the account in *The Gentleman's Magazine* states that the length of the 'tongue, or spear' is '20¾"' (or *c.* 52.5cm). In any case, the pin itself has clearly been re-set, at a lop-sided angle, since it was first illustrated, and its tip has been broken and rejoined (see **2:1**, for further details of these repairs).

In 1794, the brooch was republished by William Hutchinson, with details and illustration taken from Clarke, although he adds the suggestion that it was made as 'an instrument to close the curtain of a state tent, or for some such public use' (1794, 477 and plate).

The brooch itself was exhibited to the Committee of Antiquities of the Royal Irish Academy, in Dublin, on 28 February 1786 (*Minutes Book*):

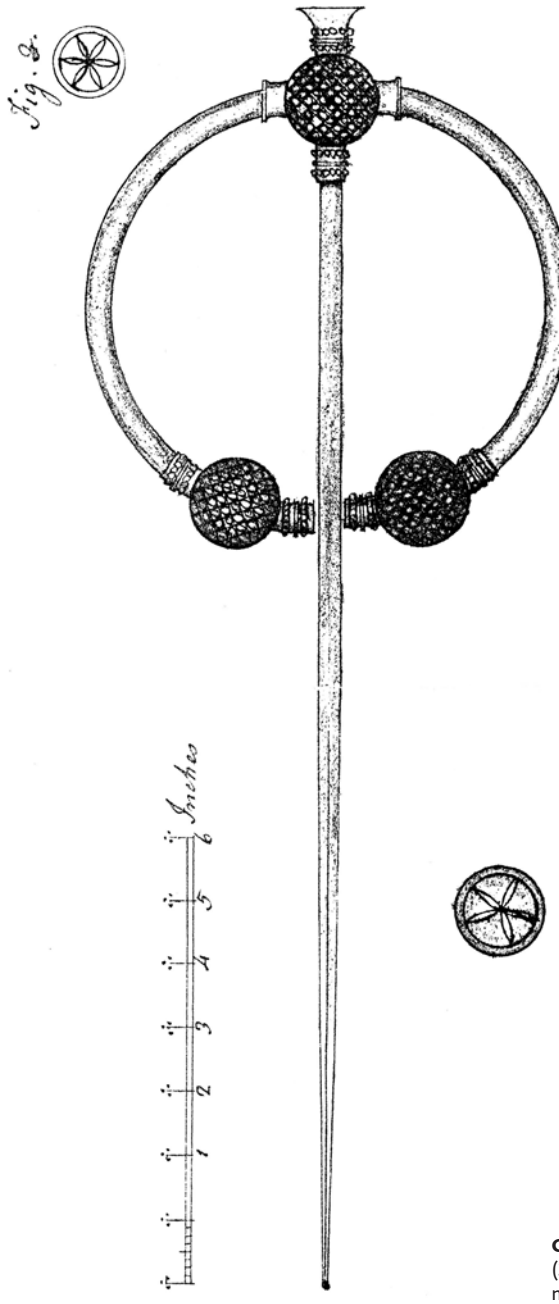
> A remarkable silver Fibula similar to that which is deposited in the College Museum [Trinity College, Dublin] was exhibited to the Committee, it was found in Cumberland near Penrith.

The Trinity College 'thistle-brooch' is that ploughed up in a field near Cashel, Co. Tipperary, sometime before its first publication in 1770 (Armstrong 1915).

It would seem reasonable to suppose that the Penrith brooch was exhibited in Dublin when still in the ownership of Joseph Clarke, given in part the comment by James Clarke that 'Mr. Joseph Clarke…shewed it to most of the Antiquaries at London, York, Cambridge, and many places' (1789, 46), but in particular because of his statement (*ibid.*), quoted above, that the brooch was 'now in the possession of Mr. Joseph Clarke', although such need not necessarily have been the case by the time his book actually appeared in print (the second edition of which was published in 1789). Indeed, his passage about the brooch may well have been drafted as early as 1786, if not at the beginning of the following year, given that his engraving of it (complete) is dated '30 February 1787'.

It has, however, been suggested that the brooch had by then been acquired by Sir Ashton Lever of Alkrington Hall, near Manchester, for display in his Holophusicon (otherwise known as the Leverian Museum) in London, on the grounds that it is illustrated in an album containing forty watercolours by Sarah Stone (now in the possession of the Department of Africa, Oceania and the Americas of the British Museum) which King has argued were painted for him '*c.* 1783–4' (King 1996, 170, and Appendix II). That this cannot actually have been the case is demonstrated by the fact that the Penrith brooch was not discovered until April 1785, by which time Lever was already engaged in the process of disposing of his museum by means of a lottery (*ibid.*, 168–70). The winning ticket, purchased by James Parkinson of London (in December 1784), was drawn on 23 March 1786, although Parkinson did not take possession of its contents until six months later.

It would seem, therefore, that the brooch was a late addition by Lever to his collection, most probably in 1786, and that the album in question was compiled for enjoyment in his 'retirement' rather than 'for display in the Museum' (King 1996, 177), as a follow on by Sarah Stone from her earlier work for him which had culminated in a major exhibition of her 'Transparent Drawings in Water Colours' in 1784 (*ibid.*, 174). It is of interest to note that Stone's illustration of this 'thistle-brooch' (fol. 39; *ibid.*, 139) accurately depicts the damage to its terminals, unlike the pen-and-wash drawing (**Cat. Fig. 46**) recognised by Neil



Cat. Figure 46 Silver 'thistle-brooch' (**38** = **2:1**), from Newbiggin Moor, near Penrith (Bodleian Library)

Stratford among the collection of papers bequeathed by Francis Douce (who died in 1834) to the Bodleian Library, Oxford (Douce Prints: W.1.6, 620). This is inscribed on the back:

> Drawing of a Silver Fibula found near Penrith in Cumberland given to me at Penrith by the Revd. Mr. Cookson.
>
> F. Douce.

The beginning of Parkinson's ownership of the Leverian Museum saw its re-opening in a new building, together with 'a regular flow of acquisitions, accompanied by publicity extolling their virtues' (King 1996, 171), but:

> for reasons not fully understood the museum did not continue to be successful, and was dispersed at auction in 1806 in a sale with nearly 8,000 lots. This was prepared by Edward Donovan (1768–1837), see *Catalogue of the Leverian Museum … The sale of the entire collection (by Messrs King and Lochee) will commence on Monday, the 5th May, 1806 …* (*ibid*., 170 and note 26).

Unfortunately, 'a number of lots in the 1806 sale consisted of European antiquities, from any one of which this brooch may have come', although lot no. 5166 is perhaps the most obvious possibility, consisting of 'A Roman fibula, and three others' (*ibid.*, 179–80). The fate of the brooch is thus unknown, and it was still missing in 1887 when it was discussed, by R.S. Ferguson, as a parallel to that from Casterton, Kirkby Lonsdale, Westmorland (1887, 141–2).

The brooch was next referred to in print by W.G. Collingwood (in *VCH: Cumberland*, I (1901), 282–3), although he was clearly mistaken in supposing that it had been found 'together with silver rings', given that his source was Joseph Clarke's *Survey of the Lakes* (1789), which contains no mention of any other silver having been found at 'Fluskew' in 1785 (as above).

The brooch eventually emerged onto the market at the beginning of 1905, as a result of the sale of the collection that had belonged to the late Humphrey Wood (of Rochester and Chatham), when it was purchased by the London dealer, W. Talbot Ready (Sotheby's, 9 February 1905). Before this sale took place, however, Ready had brought the brooch to the attention of Reginald Smith at the British Museum, in a letter dated 26 January 1905, and he subsequently invoiced the Museum for £53.10.00 as the price of its purchase, representing a price of £50 plus his commission (*BM Correspondence File, MME: 1905*). In fact, the brooch was returned to him by C.H. Read (*ibid*.), for reasons unrecorded, although it could well have been the case that he had exceeded the Museum's budget for this sale, given that he paid £160 for several 'Saxon objects' acquired by him on the same occasion (*BM Correspondence File, MME: Out-Book*, *1905*).

The following year the brooch was exhibited, once again, to the Society of Antiquaries of London (on 1 February 1906), by Hercules Read himself (*Proceedings of the Society of Antiquaries of London* 2nd ser., xxi (1906), 63), together with a ringed pin and a penannular brooch, newly found near Killucan, Co. Westmeath, both of which were donated by him to the Museum (MME: 1906,0210.3 and 4). On this occasion, 'Mr Reginald Smith added some remarks on the pin and brooches exhibited, and on other examples of the "thistle" type' (Smith 1906). His paper is illustrated with a photograph of the brooch taken alongside that from 'near Penrith' (*ibid*., 68 and plate), which the Museum had acquired in 1904 (**37**); the same photograph was subsequently re-published by Shetelig in 1933 (fig. 49), by Bjørn and Shetelig in 1940 (figs 15–16), as again by Shetelig in 1948 (fig. 5). Indeed, W.G. Collingwood in his Inaugural Address as President of the Viking Society, on 19 January 1906 (1907, 21), stated that 'at the British Museum are now two enormous thistle brooches, both found between Dacre and Penrith' (*ibid*., 116; this paper was published in Part 1 of the *Saga-Book* for 1906–07, dated April 1907).

However, it was not long afterwards, in 1909, that the brooch was eventually purchased by the Museum, having passed into the possession of the dealers, Rollin & Feuardent, together with five further items (MME: 1909,0624.1–6), for a total of £225.10.0. It was then registered as: 'Found in Silver Field, near Fluskew Pike, Newbiggin moor, between Dacre & Greystoke, Cumberland, April 1785'.

During the latter part of the twentieth century, this exceptionally fine 'thistle-brooch' formed part of five international exhibitions: *The Vikings* (Graham-Campbell 1980, no. 195; Graham-Campbell and Kidd 1980, no. 218); *The Vikings in England* (Roesdahl *et al.* (eds) 1981, E11); *A Silver Saga* (Philpott 1990, 66); *From Viking to Crusader* (Roesdahl and Wilson (eds) 1992, no. 364); and subsequently in India, as part of *Enduring Image* (Burton (ed.) 1997, no. 197). At the British Museum, it now forms part of *Enlightenment: Discovering the World in the Eighteenth Century* (Sloan (ed.) 2003, fig. 9), although its travels continue.

Society of Antiquaries of London: Minutes Book, vol. xx (for 16 June 1785); *The Gentleman's Magazine* 55:1 (1785), 347, fig. 8; *Royal Irish Academy: Minutes Book*, vol. I (May 1785–June 1850), 16; *Album of Watercolours by Sarah Stone* (Department of Africa, Oceania and the Americas, British Museum), fol. 39; Clarke 1789, 46–7, pl. v; Hutchinson 1794, I, 477 and plate opp. p. 481, fig. 13; Bodleian Library, Oxford: Douce Prints W.1.6 (260); King and Lochee Sale (5 May 1806): *Catalogue of the Leverian Museum* (by Edward Donovan), lot 5166(?); *Archaeological Journal* vi (1849), 70; Ferguson 1887, 141–2 (reprinted as Ferguson 1889, 279–80); *VCH: Cumberland*, I (1901), 282–3; *BM Correspondence File*: MME (1905:N–R): letter to R.A. Smith (26 January 1905); invoice (9 February 1905) and letters to C.H. Read (18 and 20 October 1905), from W.T. Ready; Sotheby's Sale Catalogue (9/10 February 1905), lot 86; *Proceedings of the Society of Antiquaries of London* 2nd ser., xxi (1906), 63; Smith 1906, 68 and plate, fig. 1; *BM Anglo-Saxon Guide* (1923), 104; Shetelig 1933, 146, fig. 49; Bjørn and Shetelig 1940, 46, fig. 15; Shetelig 1948, 76, fig. 5; Graham-Campbell 1980, 54–5, no. 195; Graham-Campbell and Kidd 1980, 196, no. 218; Roesdahl *et al.* (eds) 1981, 75, E11; Philpott 1990, 66; Edwards 1992, 49, no. 13; Roesdahl and Wilson (eds) 1992, 324, no. 364; Richardson 1996, 36, 42, note 9; King 1996, 179–90 and fig. (fol. 39); Burton (ed.) 1997, no. 197; Edwards 1998, 33–4, fig. 17; Graham-Campbell 2001b, 213, 224, no. 11, fig. 16,4; Johnson 2001, 340, fig. 27 (top left); Sloan (ed.) 2003, fig. 9 (colour).

D. PENDANTS (39-41)

ENGLAND

39 Leconfield, East Yorks

MME: 2000,0301.1. Through the Treasure process; found in 1998.

39 Silver pendant fragment (MME: 2000,0301.1)

Hammer-shaped pendant, of rectangular section, with random ring-stamping on one face (**Pl. 39**). Apart from the one missing end of the hammer-head and being broken through the shaft, most of which is missing (including the suspension-loop), this fragment is in good condition, with no nicks.

Nicks: 0. L 1.3; W 1.6cm. Wt 4.6g.

This silver pendant fragment was found by Steven K. Sansam, in November 1998, while metal-detecting in a ploughed field at Leconfield in East Yorks; it was declared Treasure at an inquest on 22 July 1999. In 2003–04, it formed part of the British Museum's touring exhibition, *Treasure: Finding our Past* (Hobbs 2003).

The pendant was analysed in the British Museum Research Laboratory in March 1999, by D.R. Hook (File No. 7063-7-W), using XRF at an area of uncleaned metal. The following result should therefore be regarded as semi-quantitative only: 97% silver; 1% copper; 1.3% gold; and 0.1% lead.

Treasure Annual Report 1998–1999, 52, no. 88.

40 Little Snoring, Norfolk

MME: 1999,1001.1. Through the Treasure process; found in 1997.

40 Silver-gilt and niello-inlaid pendant (MME: 1999,1001.1)

Pendant with openwork decoration in the form of a Borre-style 'gripping-beast' (**Fig. 6.17** and **Pl. 39**); the following description is adapted from Geake and Youngs (2000). The circular frame is ornamented with four protruding animal-heads in profile – the lower two both surmounting a single limb, with a three-toed foot which grips the ring, with a band around the ankle. All the heads have outlined and dotted cheeks, circular eyes and open jaws; there is a transverse band across the snout, which ends in an upward spiral above a downward curving tongue. The back of the head has a curved lappet, or pigtail, with an engraved border line; on the lower two animals, this is crossed by the limb. The frame itself is decorated with a row of pellets/billets between borders.

The central animal is a classic Borre-style 'gripping-beast', with a triangular mask just below the suspension-loop, with long projecting curved ears. Its neck curves to

expanded forequarters from which emerge two forelegs, with one foot gripping the frame of the pendant, and the other resting against it. The ribbon-like body then arches across the neck to expanded hindquarters from which emerge two hind-legs, one of which has a spiral hip and passes behind the neck to grip the body; the other grips the frame. There is a short tail, which curls between the hind-legs. The neck, forequarters, body and hindquarters are all pelleted between borders, whereas the tail and limbs are plain. The gripping feet are three-toed; the non-gripping foreleg is shown in profile, with a band around the ankle and a curled foot. A pair of double-stranded lappets, or forelocks, curves downwards from the top of the animal's head, crossing its ears to interlace with the frame and its raised limbs.

The suspension-loop has a central ridge, with a pair of median grooves, on either side of which is a field decorated with downward-pointing oblique grooving. The loop is only fully rounded at either end on the reverse, being of hollow U-shaped section in between. The reverse of the pendant is plain.

This well-manufactured, high-quality pendant is in good condition, with no nicks.

Nicks: o. L 4.2; W 3.55cm. Wt 15.12g.

This silver pendant was found by George Parsons, in December 1997, while metal-detecting at Little Snoring in Norfolk (*The Searcher* 1998, 20); it was declared Treasure at an inquest on 15 December 1998. In 2003–4, it formed part of the British Museum's touring exhibition, *Treasure: Finding our Past* (Hobbs 2003).

The pendant was analysed by the British Museum Research Laboratory in June 1998, by D.R. Hook (File No. 7000-19-M), using XRF at an area of uncleaned metal. The following result should therefore be regarded as semi-quantitative only: 71% silver; 21% copper; 4% zinc; 1% tin; and 2% lead. Traces of gold and mercury were also detected, indicating that the pendant had been mercury- or fire-gilded.

The Searcher 1998, 20; *Portable Antiquities Annual Report 1997–98*, 17; *Treasure Annual Report 1997–1998*, 21, no. 84; Geake and Youngs 2000, in *Treasure Annual Report 1998–1999*, 47, no. 80, fig. 80; Paterson 2002, 267–8, fig. 1; Pedersen 2008, 11; Kershaw 2010, 243–5, no. 449; Webster 2012, 212, fig. 177.

41 Mildenhall, Suffolk

MME: 1987,0402.1. Purchased in 1987 from Mr C. Barton; found in 1987.

41 Silver-gilt coin pendant (MME: 1987,0402.1)

Coin of Sven Estridsen, King of Denmark (1047–75), mounted with a suspension loop at one end of a cross-arm, so that its cross-marked reverse is the display face (**Cat. Fig. 47** and **Pl. 39**); it belongs within a series minted at Roskilde (cf. Hauberg 1900, pl. ix, nos 36–7), with blundered Roman letters. The loop, also of gilded silver, is a triple moulded strip with neatly flattened, rounded ends (H 0.9cm), pierced with a dome-headed silver-gilt rivet, clenched on the obverse.

Nicks: o. D 1.75; H (with loop) 2.25cm. Wt 1.4g.

This eleventh-century Danish coin pendant was found by Mr C. Barton, in April 1987, while metal-detecting on Nut Tree Farm at Mildenhall, in Suffolk.

Archibald 1991, 13, 15, 17–18, 19, 21, 22 (note 1), no. 11; West 1998, 84, fig. 116, no. 6.

Cat. Figure 47 Silver-gilt coin pendant of Sven Estridsen (**41**), from Mildenhall, Suffolk (after West)

Appendix 1
A Thor's Hammer Pendant, 'reputedly' from near Carlisle, in the British Museum

In December 1989, the British Museum purchased a silver pendant in the form of a Thor's hammer, which was described as 'reputedly found south of Carlisle, Cumbria'; it had been consigned for sale anonymously (Sotheby's, 7 December 1989, lot 4). At that time, the only definite Thor's hammer known from England, in the public domain, was the plain example from the Cuerdale hoard (**1:1,115**), which had been published by Hawkins (1847, 129–30, fig. 85; **Fig. 6.16**), and which had been displayed in *The Vikings in England* exhibition (Roesdahl *et al.* (eds) 1981, 88, no. F2).

Following the main catalogue entries, the 'Carlisle' pendant may be described as follows:

Silver pendant (MME: 1990,0101.1)

In the form of a hammer, with stamped ornament, and a plain suspension ring (D 1.0cm), which has overlapping ends secured with a single rivet (**App. Fig. 1.1**). The ring passes through a plain perforated knob, whereas the expanded shaft and rectangular hammer-head, which has an expanded mid-portion, are flat and decorated on both sides, with a triangular stamp containing six pellets. The layout consists of nine impressions on either side: two on the shaft, with two interlocking rows (of four and three impressions) on the hammer-head (total stamps: 18). It is in good condition, with no nicking.

Nicks: 0. L 2.35; W (hammer-head) 1.9; T 0.2cm. Wt 4.9g.

Scientific examination

Various details of the form and ornament of this pendant, together with the lack of information concerning its find-circumstances, in time created some uncertainty as to whether this piece was in fact a genuine Thor's hammer of Viking-age date, given that such have been much reproduced in recent times. As a result, in 2006, it was submitted to the British Museum's Department of Conservation, Documentation and Science for XRF-analysis, as is now standard procedure during the Treasure process (cf. **39**: the Thor's hammer fragment from Leconfield, East Yorks). The following two paragraphs are quoted from the report by Susan La Niece (DCDS Report No. AR2006/59):

> *Metal composition*
> Non-destructive X-ray fluorescence analysis of the pendant and its suspension loop indicated a surface composition for both of approximately 93% silver with the balance made up of copper. Significantly, no gold was detected in the metal of the pendant (analysis was carried out on the front and the side: the detection limit for gold by this method is 0.1%). A trace of gold was detected in the metal of the suspension loop.
>
> *Discussion*
> Small Viking-period silver items are analysed in this laboratory on a regular basis [and], although their silver content is not consistent, unlike this pendant they always contain a detectable trace of gold. Such traces are refined out of modern silver. It may be significant that its silver content is close to that of the modern sterling standard of 92.5% silver, though of course genuine Viking silver items can be found which are of this composition. The balance of the evidence suggests that, although the metal of the suspension loop may be of some antiquity, the pendant is more likely to be modern than Viking.

App. Figure 1.1 Fake silver Thor's hammer pendant, reputedly 'from near Carlisle' (British Museum)

Form and ornament

There is nothing remarkable to comment on concerning the outline of the 'Carlisle' hammer, except for the form of its globular terminal, given that none of the other hammer-shaped pendants of this period known from England (Handlist no. 3) has such a terminal and, likewise in Scandinavia, it is normal for such pendants either to be perforated through a tapered terminal or to have simply a looped end. One of the finest exceptions to this generalisation is, however, the hammer from a tenth-century Danish hoard, found at Sejrø, Sjælland (Zeiten 1997, no. 76, fig. 35). In this context, it is of note that it formed part of *The Vikings in England* (1981) exhibition, when it was prominently illustrated in the catalogue (Roesdahl *et al.* (eds) 1981, 128, 151, no. H2). This particular pendant is plain, but stamped ornament is a common form of decoration on Thor's hammers, as with the oft-reproduced example from the tenth-century Rømersdal hoard, Bornholm (e.g. Graham-Campbell 1980, no. 522; Graham-Campbell and Kidd 1980, pl. 44; cf. **39**). Indeed, the reconstruction drawing of a man in *The Vikings in England* catalogue (Roesdahl *et al.* (eds) 1981, 106) shows him wearing a Thor's hammer pendant (**App. Fig. 1.2**), which is decorated with a pattern of interlocking triangular stamps containing six pellets, on both its head and shaft, in precisely the same manner as on the 'Carlisle' example. What is unusual, however, with regard to the use of stamped decoration on the 'Carlisle' pendant, is that it is present on *both* sides, apparently unlike any Thor's hammer known from Scandinavia (Jensen 2010, 132), although two such are now on record from England (see above, p. 125) and there is one from Hedeby (Staecker 1999, fig. 11b).

The use of triangular stamps was the standard alternative to ring-stamping for the decoration of silver ornaments in Viking-age Scandinavia (as described in Chapter 8), but it was then usual for such triangles to contain either one or three pellets (e.g. Stenberger 1958, 289, fig. 71).[1] For instance, the eleven different triangular stamps used on the Viking-age silver found in Scotland consist of four containing a single pellet and seven with three each (Graham-Campbell 1995, fig. 28, nos 15–25). A couple of arm-ring fragments amongst the Cuerdale material display the use of a triangular stamp containing one pellet (e.g. **Fig. 8.2,8**) and one has two (**Fig. 8.2,13**), but most have three (**Fig. 8.2,9–12** and **14–20**), with four others having four or seven (**Fig. 8.2,21–4**). The Viking-age silver from southern Sweden likewise displays only the use of triangular stamps containing one or three pellets (Hårdh

1976), as also appears to have been the case in Norway (e.g. Hårdh 1996, figs 7, 23 and 35). The same holds true for the Viking-age silver ornaments from Schleswig-Holstein, although a triangular stamp containing four pellets is used on one arm-ring fragment, from the Wangels I hoard (Wiechmann 1996, figs 35,48, and 66,1).

Such Viking-age triangular stamps are frequently lop-sided in their execution and application (cf. **Fig. 8.2**; Graham-Campbell 1995, fig. 28). The absolute precision of the small stamp used on the 'Carlisle' hammer, with its atypical content of six pellets, but just as depicted on *The Vikings in England* reconstruction drawing (**App. Fig. 1.2**), accords well, therefore, with the suggestion that it is of modern manufacture.

The remaining diagnostic feature for consideration is the nature of the somewhat crudely riveted suspension-ring of the 'Carlisle' pendant. Such small rings on Viking-age ornaments, whether for suspension or other form of attachment, are characteristically closed by twisting together the ends (see pp. 122–3). Indeed, the use of a lapped and riveted ring appears to be unique in such a context, although the type is familiar to those with knowledge of the manufacture of chain mail (cf. O'Connor 1992).

App. Figure 1.2 Reconstruction drawing of a man wearing a Thor's hammer pendant (David Mallott; from Roesdahl *et al*. (eds) 1981)

Condition

The good condition of this 'well-finished' pendant was noted during its laboratory examination by Susan La Neice, who commented in her report that:

> It shows no signs of corrosion, just a thin, dark tarnish. There is little evidence for wear which could be attributed to use; the fine striations left by the maker when finishing the sides with an abrasive are well preserved.

This lack of any evidence for the pendant having been worn, let alone circulated as bullion, is naturally not in itself indicative of modern manufacture, but can of course be taken in support of the above suggestion that this appears to be the case.

Conclusion

The conclusion must be therefore that the 'Carlisle' pendant is neither an original piece of Viking-age manufacture nor a reproduction of an extant Thor's hammer, but rather that it was made with the deliberate intention to deceive – and is thus a fake.[2] Its supposed provenance 'south of Carlisle' placed it, convincingly enough, in an area of north-west England with several known finds of Viking-age hoards and silver ornaments (Edwards 1998; Graham-Campbell 2001b; Graham-Campbell and Philpott (eds) 2009). It may be relevant to note, therefore, that, only a few years after it had appeared on the market, the then Liverpool Museum was offered a silver finger-ring for purchase (in 1993),[3] supposedly from the early tenth-century hoard found at Harkirke, Lancs, in 1611. This modern creation, although made of old silver, has been described as 'pure pastiche', being a mixture of elements drawn from well-known examples of both eighth- and ninth-century Anglo-Saxon ornamental metalwork (Graham-Campbell 2001b, 219).

Notes

1 Even amongst the great quantity of Viking-age silver from Gotland catalogued by Stenberger, he was only able to list two objects decorated with a triangular stamp containing six pellets, and both of these are non-Scandinavian spiral-rings (1958, 289).

2 Jensen has likewise decided, independently, to exclude the 'Carlisle' pendant from his recent catalogue of Viking-age amulets (2010, 132).

3 This was two years after Liverpool Museum had mounted the special exhibition, *A Silver Saga: Viking Treasure of the North West*, in celebration of the 150th anniversary of the discovery of the Cuerdale hoard (Philpott 1990).

Appendix 2
The Cuerdale Hoard: Fakes and False Provenances

The eleven items included in this Appendix (eight of which form part of the Nelson collection, in National Museums Liverpool) have all been attributed at some time to the Cuerdale hoard, but it is argued below that, for various different reasons, this provenance is demonstrably unacceptable. Two silver rings (nos 4–5) are genuinely of Viking-age manufacture (so fully catalogued here), but it can be demonstrated that they both had a different published provenance *before* their first Cuerdale attribution. One arm-ring, in excellent condition (with no nicks) and with no known pedigree, is undoubtedly Merovingian in date (no. 6) and cannot conceivably have formed part of an early tenth-century hack-silver hoard from north-west England. Six rings are of nineteenth-century Indian, and possibly Arabian, manufacture (nos 3 and 7) and were clearly given their 'Cuerdale' provenances in order to deceive prospective purchasers; indeed, three of the rings had earlier been provenanced to 'Ireland' and one to 'Gaul' (no. 7). Deception may also have been the purpose of the fake 'mark' ingot (no. 1), given the known nineteenth-century forgeries of Cuerdale coins (see p. 175); on the other hand, there exist some deliberate base-metal copies of Viking-age arm-rings from the nineteenth century (Graham-Campbell and Sheehan 1995), including one of no. 4 (below). It is also suggested here that the 'Cuerdale' provenance attributed to a curious cylindrical ingot (no. 2), first recorded in 1934 – and now in the Ulster Museum, Belfast (Museums and Galleries of Northern Ireland) – is most unlikely to be reliable, given that there has to be some considerable uncertainty as to its date of manufacture.

1. Fake Cuerdale 'mark' ingot (Nelson collection, National Museums Liverpool), by Susan Kruse[1]

The programme of XRF analysis of Viking-age silver ingots undertaken by Susan Kruse and James Tate (1992) resulted in the discovery that one of the trapezoidal cross-marked ingots, with a Cuerdale provenance (**App. Fig. 2.1**), from the Nelson collection (LM 53.114.47), contains no silver, but instead is of tin (*ibid*., 320, table 1; amounts are percentages, 'n.d.' = not detected):

Cu	Zn	Au	Pb	Bi	Ag	Sn	Total
0.1	0.4	0.1	1.0	0.3	n.d.	98.1	100.0

App. Figure 2.1 Fake 'mark' ingot in the Nelson collection, reputedly from 'Cuerdale' (National Museums Liverpool)

Nothing is known of the history of this ingot before it was acquired by Philip Nelson (Shetelig (ed.) 1954, fig. 85, left), although Graham-Campbell has suggested above (pp. 174–5) that it may have formed part of Lord Grantley's collection, which was sold in 1942 (lot 1). The weight of the ingot (191.79g), compared to over 250g for the other mould ingots discussed above (p. 81, **Table 4.3**), had already marked it out as atypical (Lewis 1982, 54–5), but no suspicion as to its authenticity had been noted. It shares its characteristic form with the three mould duplicates that have the raised cross, and which were cast before the crack in the mould appeared (**1:6–8**), so it either represents a Viking-age forgery from the same mould or is a nineteenth/twentieth-century ingot cast in a mould formed from one of the duplicates. Distinguishing between an ancient and modern forgery is, however, extremely difficult.

Although there have been very few analyses of Viking-age ingots, apart from the aforementioned study, base ingots from this period are not unknown (Stenberger 1958, 234). On the other hand, forgeries of Cuerdale coins were already problematic in the nineteenth century (see above, p. 175), and there exists also the evidence for the copying of Viking-age silver arm-rings in base metal during the mid-nineteenth century, as published by Graham-Campbell and Sheehan (1995), for which see the discussion of hoard **16**, from 'Scotland', and the 'Oxford' ring, no. 4 (below, pp. 270–1).

The three extant duplicates for this tin ingot comprise: that in the Assheton collection (**1:6**); that purchased by the British Museum in 1873, possibly from the Wigan collection (**1:7**); and that in the Evans collection, which had been acquired by Bateman from the Dymock collection in 1848 (**1:8**). The possibility exists, however, that the model no longer survives, given that several of the 'mark' ingots from the Cuerdale hoard are unaccounted for (see above, p. 30).

It is notable that the forgery has a single nick, because the presence of nicking is a characteristic shared by both the British Museum and the Evans ingots (one and two respectively), unlike the other mould duplicates (**Table 4.3**). Moreover, the nick on the British Museum ingot (**1:7**) and that on the forgery are roughly in the same place. On the other hand, the Evans ingot (**1:8**) is rather pitted on top, unlike the other examples (including the forgery); as a result, it is the least likely of the three to have been used to make such a mould. Indeed, the forgery has a crispness that would have necessitated the use of a model with extremely good relief, as happens to be the case with both the Assheton and British Museum ingots (**1:6–7**).

Should the forgery be of Viking-age date and should it have formed part of the Cuerdale hoard that became available for distribution, it is problematic that none of the sources mentions the existence of a lightweight ingot amongst the duplicate 'marks'. Unfortunately, however, the early account by Hawkins is slightly ambiguous in its discussion of the weights of the ingots, with his conclusion being that they 'are not adjusted to any particular weight, those cast even in the same mould varying much in weight; some weighing between 3900 and 4000 grains' (1847, 112). The lower weight in this range is

equivalent to 252.79g, and the lowest weight among the extant mould duplicates (other than the forgery) is the ingot weighing 250.58g (**1:11**). Hawkins seems, therefore, to have settled for rounded numbers in the weight ranges that he published, for '3900 grains' best approximates to this particular ingot.[2] However, if the forgery had been to hand, it seems inconceivable that he would not have mentioned its far lighter weight, given that a wider range of tolerance, such as '3000 [= 194.40g] to 4000 grains', would have illustrated his point even better. The only possibility, therefore, for this ingot being a Viking-age forgery is that it was amongst the material abstracted from the hoard before it was surrendered to the authorities.

In consequence, the actual age of the tin ingot has to remain an open question, but the evidence points to its being of nineteenth-century date, given the lack of any mention of it in the primary account by Hawkins. If the ingot was, as seems probable, produced after the hoard's discovery in 1840, then the nicked ingot (**1:7**), which only entered the British Museum in 1873, is at present the most likely candidate for having been copied, sometime during the thirty or so years it remained in a private collection, if not necessarily with any intent to deceive.

2. 'Cuerdale' silver cylindrical ingot (Ulster Museum, National Museums and Galleries of Northern Ireland)[3]

In June 1977, a Yorkshire dealer offered for sale to the then Department of Medieval and Later Antiquities, British Museum, a silver tapered cylindrical ingot, with a written label stating: 'From the Cuerdale hoard, 1840'. On the other side of this label is written: 'The gift to me of Mr G.F. Lawrence of the London Museum, who purchased it from a private collection, 1934'. If, indeed, from the Cuerdale hoard, then the form of Lawrence's ingot would make it unique amongst its extant ingot material; in addition, no such cylindrical ingot has to date been recognised in any published account of the hoard, or sale catalogue from before 1934.

This ingot (**App. Fig. 2.2**) was soon afterwards submitted to the Museum for examination (by Baldwins), and W.A. Oddy reported (5 July 1977):

> I have measured the specific gravity of this ingot and examined it under the microscope. The weight is 24.9812g and the specific gravity is 7.07. This low value is a result of the layer of corrosion on the surface, and hence nothing can be inferred about the likely composition.
>
> The layer of corrosion products is probably mostly silver chloride, but slight traces of copper corrosion products are visible. The black deposit has no characteristic features, but it may be silver sulphide.
>
> The thick end has a crystalline appearance which suggests that the ingot was cast vertically in an open-topped, slightly tapering, cylindrical mould.

The ingot was subsequently cleaned and sent for auction at Christie's (4 October 1977, lot 71), when it was purchased by the Ulster Museum (reg. no. DB 1132), where it was conserved in 1983.

App. Figure 2.2 Cylindrical silver ingot, reputedly from 'Cuerdale' (Ulster Museum)

Using Oddy's orientation, the lower part of this ingot (L 5.8cm) is a rod of circular section, which expands slightly (D 0.7–0.8cm) towards the wider upper part (D 1.0cm), which also expands slightly to an ovoid end (1.15 x 1.05cm). Both ends are rough (the larger now partially smoothed for analysis), but so is the overall surface. There are no cut marks or nicks.

The main reason for doubting a Viking-age date for this ingot is that cast cylindrical ingots are not only otherwise unknown from the Cuerdale hoard, but also they are not present in any of the other Viking-age hoards examined by Kruse, who has stated categorically that 'no ingots of large size have [a] round section, and those of smaller size seem to be fragments of ornaments' (1988a, 13). In any case, standard Viking-age ingots were cast in horizontal open moulds and not in vertical moulds as Oddy indicates would have been the case with this example.

3. Two 'Cuerdale' silver penannular arm-rings (Diergardt collection, Berlin)

In the old catalogue of the Museum für Vor- und Frühgeschichte, Berlin, two small penannular silver arm-rings are registered as being from 'la célèbre trouvaille faite à Cuesdale avec des monnaies Anglo-saxons' (no. Vd 71,a–b).[4] In this case, 'Cuesdale' has clearly been wrongly transcribed from an earlier manuscript catalogue, which lists the objects purchased in 1906, by the Berliner Prähistorische Abteilung des Museums für Völkerkunde, from the international collection assembled by the German industrialist, Johannes von Diergardt (Graham-Campbell and Päffgen forthcoming). There these 'Cuerdale' arm-rings are listed (no. 6), in similar terms, at the end of his group of items from 'Great Britain' (nos 1–6: the others being various Anglo-Saxon grave-goods from different sites).[5]

Both these penannular rings are band-shaped, with stamped ornament on the outer face, and have knobbed terminals (**App. Fig. 2.3**). They are unlike any such arm-rings known for certain to have formed part of the Cuerdale hoard and the terminals, in particular, have ethnographic parallels (cf. Stenberger 1958, fig. 59, pl. 92, from Iran), including the Indian rings that entered the Nelson collection with Cuerdale provenances (see below, no. 7). Although it is not known how or when these two rings entered Baron Diergardt's collection, it would seem beyond reasonable doubt that he was deceived into purchasing them on the fabricated grounds that they were from the 'celebrated' Cuerdale hoard.

4. Hiberno-Scandinavian broad-band silver penannular arm-ring from 'near Oxford' (Nelson collection, National Museums Liverpool)

This arm-ring (Nelson collection, no. 23; Shetelig (ed.) 1954, fig. 85) was exhibited by its then owner, W.H. Forman, at the National Exhibition of Works of Art at Leeds, in 1868, and the exhibition label is preserved within it. In the Leeds *Official Catalogue* (1869, 182, no. 16), no provenance is given, but as detailed above (p. 172):

> What can only be the same object was described in detail, by H. Syer Cuming, on the occasion when seventeen rings from Forman's collection were displayed to the British Archaeological Association in 1857, when it was 'affirmed to have been found near Oxford'.

App. Figure 2.3 Two penannular silver arm-rings in the Diergardt collection (Berlin), reputedly from 'Cuerdale' (Museum für Vor- und Frühgeschichte, Staatlichen Museen zu Berlin – Preußischer Kulturbesitz (SM-PK/MVF); photo: Claudia Plamp)

Nelson purchased this ring at the Grantley (1942) sale, when it was catalogued (lot 3) as being 'from the Cuerdale hoard', the provenance attributed to it when it was lent by Lord Grantley to the (1930) *Exhibition of Art in the Dark Ages in Europe* (57, no. 1). A base-metal copy of this ring is preserved in the National Museum of Ireland, together with four others (Graham-Campbell and Sheehan 1995, 774–5, no. 4/14, illus. 4, left; Graham-Campbell 1995, fig. 107; 2005, 125), which formed part of George Petrie's collection of antiquities bequeathed by him to the Royal Irish Academy in 1866.

Silver penannular arm-ring (LM: 53.114.23)

Of Hiberno-Scandinavian broad-band type (**App. Fig. 2.4,a**). The band is of rectangular section, with punched ornament on its outer face; it tapers evenly in height, but not in thickness, to sub-rectangular terminals. The central field is decorated with three horizontal, regularly spaced, rows of a plain quatrefoil stamp (**App. Fig. 2.4,b**), each applied as a diagonal cross; the central row consists of twenty-four impressions, with those on either side consisting of twenty-two each (stamp total: 68). The rest of the ornament is executed with a bar-stamp, with serrated edges; there is a row of ten vertical impressions to one side and eight to the other, with both terminals having a diagonal cross bordered by three vertical impressions (stamp total: 28). Stamp total: 96. In excellent condition, with no nicking.

Nicks: 0. D 7.7; H 2.7–1.7 and 1.6; T 0.3cm. Wt 116.33g.

5. Viking-age silver penannular finger-ring from Forkhill, Co. Armagh (Nelson collection, National Museums Liverpool)

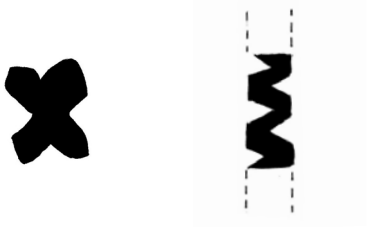
This distinctive finger-ring (Nelson collection, no. 43; Shetelig (ed.) 1954, fig. 85) is first identifiable on the occasion of the sale of the Robert Day collection (Sotheby's, 19–22 May 1931, lot 461), when it was noted as having been found, in 1867, at 'Fork Hill (borders of Co. Armagh and Lowth)'. As already described (p. 172), it was in the possession of W. Shaw when his box of Cuerdale silver (that originally presented by William Assheton to Jonathan Richardson) was sold at Sotheby's (in July 1924), for by that time the Forkhill ring had been added to it; the box and its contents were subsequently purchased by Nelson at the Drabble sale (lot 1206) in 1943 (see above).

Silver penannular finger-ring (LM: 53.114.43)

Formed from a single rod of circular section (D 0.46cm), hammered flat on its upper and lower faces (H 0.44cm); its butt-ended terminals are almost touching (**App. Fig. 2.5,a**), the outer faces of which are both decorated with six punched dots arranged to form a triangle (**App. Fig. 2.5,b**).

Nicks: 0. D 2.8cm. Wt 12.28g.

App. Figure 2.4,a Hiberno-Scandinavian broad-band arm-ring from 'near Oxford', in the Nelson collection (National Museums Liverpool), reputedly from 'Cuerdale'



App. Figure 2.4,b Quatrefoil and bar stamps (x 3) on the broad-band arm-ring from 'near Oxford' (National Museums Liverpool)

App. Figure 2.5,a-b Forkhill, Co. Armagh: Viking-age silver finger-ring in the Nelson collection (National Museums Liverpool), reputedly from 'Cuerdale', with the triangular pattern of punched dots (x 3) on its terminals

6. Unprovenanced Merovingian silver penannular arm-ring (Nelson collection, National Museums Liverpool)

This arm-ring (LM: 53.114.26) is a plain silver *Kolbenarmring* (e.g. Capelle 1973, fig. 74,q): a penannular ring formed from a single rod of circular cross-section (D 0.5cm), expanding to butt-ended terminals (D 1.2cm). It is in fine surface condition, with no nicking. D 7.9cm; Wt 70.57g (**App. Fig. 2.6**).

Nothing is known concerning this continental silver ring before it was acquired by Philip Nelson, from an unknown source, presumably during the 1940s (Nelson collection, no. 26; Shetelig (ed.) 1954, fig. 85); however, as suggested above (p. 173), it is possible that it had formed part of the Grantley collection (sold in 1942). If the argument is accepted that this ring formed part of Grantley's lot 3, together with no. 4 (above), then it is possible that it likewise originated in Forman's collection, which was formed 'in the middle years of the present century [nineteenth], mainly from purchases at London sales',[6] although it was clearly not amongst the seventeen rings exhibited by him to the British Archaeological Association in 1857.[7]

Discussion, by Martin Welch†

Arm-rings of this form are to be found in the graves of richer women in Merovingian Frankish, Alamannic, Burgundian and Thuringian row-grave cemeteries and are dateable broadly to the later fifth century and the first half of the sixth century AD. The plain silver arm-rings are distributed throughout northern Gaul, the Rhineland, Switzerland and south-west Germany, with a few outliers. Those with decorated terminals occur in the central Rhineland, Switzerland and south-west Germany and further east, but are not found in northern Gaul or the lower Rhineland (Koch 1968, 47–52, 249–51, list 11, pl. 96, map 11). Examples are illustrated in colour photography from Eltville Grave 459 and Mézières Grave 115 (Wieczorek *et al.* (eds) 1996, pls 538 and 557).

They are typically found worn singly on the left wrist and are clearly status symbols of wealth and social position. The gold arm-ring of this form from the rich, so-called 'princess' or 'queenly' grave under Cologne Cathedral, coin-dated to the 530s or 540s (Werner 1964, 203, pl. xxx,7, fig. 1,7; Wieczorek *et al.* (eds) 1996, pl. 154), helps to link the female graves with these silver arm-rings of the later fifth and sixth centuries to the single gold arm-rings of exceptionally wealthy male burials, dateable to the fifth century, found across continental Europe from Apahida (Romania) to Pouan (France). The best known of these 'princely' burials is the tomb of King Childeric (d. 481/2) at Tournai (Belgium), whose gold arm-ring has been the subject of a study by Professor Joachim Werner (1980). It would appear that the second half of the fifth century saw both the commencement of female burial with this form of arm-ring, usually in silver, and the abandonment of the custom of burying kings and princes with such gold rings.

App. Figure 2.6 Merovingian silver penannular arm-ring in the Nelson collection (National Museums Liverpool), reputedly from 'Cuerdale'

To conclude, the silver arm-ring attributed to the Cuerdale hoard was probably excavated from a late fifth- or first half of the sixth-century Merovingian woman's grave and acquired by a collector in the nineteenth or early twentieth century.

7. Four nineteenth-century Indian silver penannular rings (Nelson collection, National Museums Liverpool)[8]

These four silver rings (Nelson collection, nos 22, 25 and 30–1; Shetelig (ed.) 1954, figs 85–6) are first identifiable, as explained above (p. 173), in W.H. Forman's collection, when they were amongst those exhibited by him to the British Archaeological Association in 1857, as described by Syer Cuming (including no. 4, above). The twisted rod ring, with 'hook-and-eye' fastening (no. 22) is listed amongst those 'stated to have been found in Gaul', whereas the three penannular arm-rings are recognisable amongst those 'reported to have been found in Ireland'.

The first, and largest, of these four rings (LM: 53.114.22) is a small neck-ring formed from a single square-sectioned rod (0.5 x 0.5cm), unevenly twisted (D 12.0cm; Wt 54.18g). It tapers to become circular rods which are bent back, with their ends twisted around the hoop, so as to form terminal loops; through one terminal is looped an S-shaped fastener, bent double out of a single rod, with two decorative granules soldered onto its outer face (**App. Fig. 2.7,a**).

The second ring (LM: 53.114.25) is an oval penannular arm-ring formed from a single rod of circular section (D 0.8cm), tapering to double knobbed terminals (D 8.4cm; Wt 53.33g). There are five groups of vertical incised lines equally spaced around its outer face (**App. Fig. 2.7,b**).

The other two penannular arm-rings form a pair of small size (LM: 53.114.30–31), both formed from a single slight rod of circular section (D 0.3cm), with knobbed terminals (D 5.0 and 5.0cm; Wt 9.66 and 9.86g). The knobs are mushroom-shaped, with decorative radial nicking that is continued for a short distance up the hoop, which is otherwise plain (**App. Fig. 2.7,b**).

App. Figure 2.7,a Indian silver neck-ring in the Nelson collection (National Museums Liverpool), reputedly from 'Cuerdale'

App. Figure 2.7,b Three Indian silver arm-rings in the Nelson collection (National Museums Liverpool), reputedly from 'Cuerdale'

As is to be expected, none of these four rings has been tested by nicking. In the judgement of Brian Durrans (pers. comm., 2 October 1986, when Deputy Keeper of the Department of Ethnography, British Museum), these items are all 'from India', although he cautions against this being 'a definitive identification'. The simple neck-ring, with the hook-and-eye fastener, is certainly paralleled by a similar small ring from Madras, in the Victoria and Albert Museum (Stenberger 1958, pl. 93).

Notes

1 This is a revised version of the account published by Susan Kruse in Kruse and Tate (1992, 314–15).

2 Of the other ingots in the hoard, Hawkins stated (1847, 112) that 'these vary in weight from upwards of 2,000 grains [129.60g] to less than 100' [6.48g]; the extant complete ingots range in weight from 139.93g to 5.50g.

3 I am most grateful to Mr Cormac Bourke (Ulster Museum) for assisting me in the study of this ingot.

4 I am most grateful to Dr Egon Wamers for having been the first to draw my attention to the existence of these arm-rings in Berlin (in 1990) and, in particular, to Dr Alix Hänsel for having assisted me with their examination, and with locating their catalogue entries, during my visit to the museum in 1999.

5 E.g. 'Oxfordshire' (no. 2) comprises four Anglo-Saxon 'daggers', all ex-Bateman collection (nos 218–21), dated 1858.

6 This quotation is taken from the preface (p. iii) of a Forman collection sale catalogue (Sotheby's, 19–22 June 1869), which contains no silver arm-rings. William Henry Forman was a Doncaster ironmaster who died in 1869 (information from Hugh Pagan).

7 It is not known how many rings may have formed part of the Forman collection. Those exhibited in 1857 were described by Syer Cuming as 'examples of Etruscan, Celtic, Danish and Eastern art', in the *Journal of the British Archaeological Association* xiii (1857), 339, whereas in 1868 (the year before he died) Forman lent '*Six Roman Silver Armillæ*, of various forms' (amongst much else) to the Leeds National Exhibition (*Official Catalogue* (1869), 190, no. 213).

8 I am most grateful to Mr Malcolm McLeod and Dr Brian Durrans (British Museum: Department of Ethnography) for their advice concerning these rings (in correspondence, 1986).

Appendix 3
The Cuerdale Hoard: The Duchy of Lancaster's Distribution-Lists (B8)

1. Distribution of ... Coins up to the 3rd September 1841

This list (List 1) is divided into two parts, the first devoted to 'Anglo-Saxon Specimens' and the second to 'Coins (Continental)'; see above (p. 28). The names and coin-types are as entered in its columns (although, in a few instances, the spelling of the names has been silently corrected), but here, for clarity and convenience, the Anglo-Saxon part has been divided into two, the different types of coin have been numbered (see 'Key'), and the totals for the individual recipients have been added. The added asterisk indicates membership of the Numismatic Society of London (see Section 4, below).

List 1 Cuerdale Treasure Trove: Distribution of Anglo-Saxon Specimens of Coins up to the 3rd September 1841

Key:1 Aethelred I; **2** Alfred (**2a**: with bust &c; **2b**: without bust; **2c**: London; **2d**: Oxford; **2e**: Canterbury; **2f**: Canterbury ½ pennies; **2g**: Alfred ½ pennies; **2h**: Ditto uncertain). However, only two coins of Æthelred I (**1**) were listed by Edward Hawkins and both were allocated to the British Museum (included under 'Total', at end).

	2a	2b	2c	2d	2e	2f	2g	2h
[British] Museum	9	268	15	33	64	3	6	5
Her Majesty	1	16	1	1	1			
Mr Assheton		18		1	1		1	
Mr Hawkins*	3	7		3	2			1
Mr Cuff*	1	6		2	2	1		
Mr Bergne*		6	1	1				
Mr Sainthill [of Cork]		6	1	1				
Mr Shepherd		6	1	1	1			
Mr Dymock*		6	1	1				
Sir Hy Ellis*		6	1	1				
Mr Thomas*		6	1					
Mr Martin*			1	1				
Mr Lumley		2						
T.F. Ellis		6		1				
Col. [C.R.] Fox*		6	1					
J. Allen Esq*		6		1				
Mr Teesdale		6	1					
Mr Hardy*		6		1				
Messrs Fougères & Combrouse		6						
Mr Cartier [of Amboise]*		6		1				
Swansea Museum		6		1				
Chester Museum		6		1				
Macclesfield Society		6		1				
Bristol Institution		6		1				
Newcastle on Tyne		6		1				
Warrington Natural Hist. Soc.		6		1				
Numismatic Society		6	1	1				
Preston Society		6		1				
Hunterian at Glasgow		6	1	1				
Ashmolean Museum		12	1	1				
Bodleian	1	12	2	2				
Bibliothèque à Paris		6		1				
United Service Inst.		6		1				
Mr Akerman*		6		1				
C.R. Smith*		6		1				
Mr Boyne*		6		1				
Mr Gilbertson [of Preston]		6						
Mr Glover [of Manchester]		6						
Mr Price		6		1				
Lord Clarendon		12						
Lord Morley		6		1				
Mr Holt		6		1				
Mr W. Boyne*		4						
Mr Doubleday*		4						
Mr [J.] Field*		6						
Mr Danvers		6						
Colonel North		6						
Revd J. Martin*								
W.H. Sheppard		4						
Mr Malcolm Clerk		4		1				
Mr Huxtable*		4		1				
Mr Haigh		4						
Mr Nightingale*		2						
M. de Saulcy*		2						
Mr Gooch		3						
Mr F. Hobler*		2						
Sir George Grey		6						
Col. Fox (2nd Selection)*		6						
Oldham Museum		6						
Salford Mech. Inst.		6						
Mr W. Stevenson Fitch*		2						
Mr H.W. Chandler		2						
Mr F. Perkins*		2						
Mr Sparkes		2						

Distribution of Anglo-Saxon Specimens of Coins (continued)

Key:3 Athelstan of EA; **4** Edward the Elder (**4a**: Pennies; **4b**: ½ Penny); **5** St.Edmd of E.A. (**5a**: Pennies; **5b**: ½ Pennies; **5c**: St.Edd & Alfred); **6**: Ceolnoth Abp; **7**: Plegmund Abp; **8**: Earl Sitric; **9**: Uncertain; **10**: Uncertain

Only one ½-penny of Edward the Elder (**4b**), eleven ½-pennies of St Edmund (**5b**), one coin of Archbishop Ceolnoth (**6**), and two of Earl Sitric (**8**) were listed by Edward Hawkins, and all were allocated to the British Museum (included under 'Total').

	3	**4a**	**5a**	**5c**	**7**	**9**	**10**	**Total**
[British] Museum	16	27	601	2	36		6	1,108
Her Majesty	3	4	30		4	5	3	69
Mr Assheton	1	2	30	1	3			58
Mr Hawkins*	1	1	25	1	3			47
Mr Cuff*	3		6		2			21
Mr Bergne*		1	6		1			16
Mr Sainthill			6		1			15
Mr Shepherd		1	6		1			17
Mr Dymock*		1	6		1			16
Sir Hy Ellis*		1	6		1			16
Mr Thomas*			6					13
Mr Martin*			6					2
Mr Lumley			2					4
T.F. Ellis			6					13
Col. Fox*			6					13
J. Allen Esq*			6					13
Mr Teesdale			6					13
Mr Hardy*			6					13
Messrs Fougères & Combrouse			12					18
Mr Cartier*			6					13
Swansea Museum			6					13
Chester Museum			6					13
Macclesfield Society			6					13
Bristol Institution			6					13
Newcastle on Tyne			6					13
Warrington Natural Hist. Society			6					13
Numismatic Society			6		1			15
Preston Society			6					13
Hunterian at Glasgow		1	6		1			16
Ashmolean Museum		1	25					40
Bodleian	1	1	25		1			45
Bibliothèque à Paris			6					13
United Service Inst.			6					13
Mr Akerman*			6					13
C.R. Smith*			6					13
Mr Boyne*			6					13
Mr Gilbertson			6					12
Mr Glover			6					12
Mr Price			6					13
Lord Clarendon			12					24
Lord Morley			12					19
Mr Holt			6					13
Mr W. Boyne*			6					10
Mr Doubleday*			6					10
Mr Field*			6					12
Mr Danvers			6					12
Colonel North								6
Revd J. Martin*			6					6
W.H. Sheppard			6					10
Mr Malcolm Clerk			6					11
Mr Huxtable*			6					11
Mr Haigh			6					10
Mr Nightingale*			3					5
M. de Saulcy*			6					8
Mr Gooch			6					9
Mr F. Hobler*			6					8
Sir George Grey			6					12
Colonel Fox (2nd Selection)*			6					(13+)12
Oldham Museum			6					12
Salford Mech. Inst.			6					12
Mr W. Stevenson Fitch*			6					8
Mr H.W. Chandler			6					8
Mr F. Perkins*			6					8
Mr Sparkes			6					8

Note: a footnote added to the bottom of this page states that '2 from St. Edmund, 1 from Plegmund, and 4 from Uncertain, returned from the Museum for Her Majesty's Cabinet'.

List 1 (continued) Cuerdale Treasure Trove: Distribution of the Coins (Continental) up to the 3rd September 1841

Key:1 Charlemagne; **2** Louis I; **3** Louis II; **4** Charles le Chauve (Pennies & ½ Pennies); **5** Louis le Bègue; **6** Carloman; **7** Eudes (Pennies & ½ Pennies); **8** Emp. Guy; **9** Emp. Berenger; **10** Emp. Lambert; **11** Charles III (Pennies & ½ Pennies) [*recte* Cunnetti]; **12** Uncertain.

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Total**
[British] Museum	4	3	3	46	4	1	18	2	2	2	207	17	309
Her Majesty	4	2		20	2		16		2		30	4	80
Mr Assheton	1	1	1	12	1	1	7		1	1	96		122
Mr Hawkins*	1		1	7	1		5		1	1	73		90
Mr Cuff*	1			5		1	5		1	1	81		95
Mr Bergne*				1			2				15		18
Mr Sainthill				2			2				18		22
Mr Shepherd				1			2				16		19
Mr Dymock*				2			2				8		12
Sir Hy Ellis*	1			4			2				20		25
Mr Thomas*				2			2						4
Mr Martin*							2						2
Mr Lumley													0
T.F. Ellis				6			2				6		14
Col. Fox*				6			2				6+8		22
J. Allen Esq*				6			2				6		14
Mr Teesdale				6			2				6		14
Mr Hardy*				6			2				6		14
Messrs Fougères & Combrouse	2	2		5			6		1		84		100
Mr Cartier*	1	1		4			3		1	1	56		67
Swansea Museum				1			1				6+8		16
Chester Museum				1			1				6+8		16
Macclesfield Society				1			1				6+8		16
Bristol Institution				1			1				6		8
Newcastle on Tyne				1			1				6		8
Warrington Natural Hist. Society				1			1				6+8		16
Numismatic Society	1	1	1	6		1	3		1	1	20+45		80
Preston Society				1			1				6		8
Hunterian at Glasgow	1	1		5		1	3		1		54		66
Ashmolean Museum	1	1		2			5				44		53
Bodleian	1	1	1	6	1	1	5		1	1	74		92
Bibliothèque à Paris	1	1	1	11		1	6		1	1	159		182
United Service Inst.				6			2				6+8		22
Mr Akerman*				6			2				6+8		22
C.R. Smith*				6			2				6+8		22
Mr Boyne*				6			2				6+8		22
Mr Gilbertson				6			2				6+8		22
Mr Glover				6			2				6+8		22
Mr Price				6			2				6+8		22
Lord Clarendon				12			12				12+12		8
Lord Morley				2			2				6+12		22
Mr Holt				6			2				6+8		22
Mr W. Boyne*				2			1				6		9
Mr Doubleday*				2			1				6		9
Mr Field*				6			2				10		18
Mr Danvers				6			2				6+8		22
Colonel North													0
Revd J. Martin*													0
W.H. Sheppard				6			2				6+8		22
Mr Malcolm Clerk				6			2				6+8		22
Mr Huxtable*				6			2				6+8		22
Mr Haigh				6			2				6+8		22
Mr Nightingale*				6			2				6+8		22
M. de Saulcy*				6			2+2				12+28		50
Mr Gooch				6			2				6+8		22
Mr F. Hobler*				6			2				6+8		22
Sir George Grey				6			2				6+8		22
Col. Fox (2nd Selection)*				6			2				6+8		(22+)22
Oldham Museum				6			2				6+8		22
Salford Mech. Inst.				6			2				6+8		22
Mr W. Stevenson Fitch*				6			2				6+8		22
Mr H.W. Chandler				6			2				6+8		22
Mr F. Perkins*				6			2				6+3		17
Mr Sparkes				6			2				6+3		17

Note: Ellis, Teesdale and Colonel Fox (2nd Selection) are all recorded on this list as each having been allocated 'a mark', and Sir George Grey 'two marks'. As noted above (pp. 29–30), the Numismatic Society of London acknowledged the donation of 96 coins (whereas they had been allocated 95, according to List 1; likewise, the Society of Antiquaries of Newcastle on Tyne received 29 coins, having been allocated 21, because of the addition of 'Sundrey others --- 8'.

2. Distribution of the Coins continued from 3rd September 1841 to 6 July 1846

This list (List 2) is divided into two main columns for 'Anglo-Saxon' and 'Continental' coins respectively, with the former sub-divided into 'Alfred' and 'St Edmund', and the latter into four: 'Charles le Chauve', 'Eudes', 'Cunnetti' and 'Sundries' (as below). There are two additional lists, which were both incorporated into List 2 (see above, pp. 28 and 30); the name of J.P. Calvert appears twice, but with no allocation entered for him on either list so that he is omitted below. Details of names have been combined from these sources so as to maximise the available information. After the allocation to the Royal Dresden Museum (in November 1841), no more coins of Alfred and Eudes, or 'Sundries', remained available for distribution, and there were no more of St Edmund after the allocation to William Hamilton (April 1842). A 'Total' column has been added.

List 2 Cuerdale Treasure Trove: Distribution of the Coins continued from 3rd September 1841 to 6 July 1846

	Anglo-Saxon		Continental				
	Alfred	**St Edmund**	**Ch. le Chauve**	**Eudes**	**Cunnetti**	**Sundries**	**Total**
Lord G. Somerset	2	18	6	2	12	3	43
Sir Geo. Chetwynd*		6	4		6		18
Mr Peter Hardy*		6			6		12
Mr Brockett		6			6		12
Sir Geo. Musgrave*		6	4		6		14
Mr Brumell*	1	6	4		6		17
Mr Geo. Marshall*		6			6		12
Baron de Gazan			6		12		18
M. Rollin			6		12		18
M. Rousseau			6		12		18
Visct de Jessain			6		12		18
Baron de Fornard			6		12		18
Lady Holland	1	25	4	1	6	4	41
Yorkshire Phil. Society	1	6	4	1	6	2	20
Literary & Philosophical Inst. at Preston		12	6		12	3	33
Danish Numismatic Museum	1	30	6	1	25	16	79
Faculty of Advocates, Edinburgh	1	30	6	1	12	3	53
Sir Saml Meyrick		6	3		6		15
Dublin University	1	30	6	1	12	3	53
Museum of the Scientific Socy at Lancaster	1	30	6	1	12	3	53
Rl Manchester Inst.		20	4	1	12		37
Saff. Wald. Musm		12	4		6		22
Lubeck Liby		12	4	1	6		33
Bremen Ditto		12	4	1	6		33
Hamburgh Ditto		12	4	1	6		33
Rl Dresd. Musm	1	30	6	1	25	7	70
6 November /41 Remaining 1,443	0	315	195	0	933	0	
Mr Fredk Dixon		6	4		6		16
Mr Walter Hawkins*		6	4		6		16
Mr Chas de St Croix [Jersey]		6	4		6		16
Mr Chas Roberts		6	4		6		16
Dr Aquila Smith, Dublin*		6	4		6		16
Mr Henry Young*		6	4		6		16
Mr E.J. Powell*		6	4		6		16
Mr C.W. Loscombe*		6	4		6		16
Mr H.L. Tovey*		6	4		6		16
Mr Farquharson Tupper*		6	4		6		16
Mr A.C. Kirkman		6	4		6		16
Mr A.J. Stothard*		6	4		6		16
Mr J. Martin*		6	4		6		16
Major Sheppard R.A.*		6	4		6		16
Mr W.H. Rolfe*		6	4		6		16
Mr J.G. Pfister*		6	4		6		16
Revd E.S. Pearce*		6	4		6		16
R.C. Weddell Esq*		6	4		6		16
J. Colquhoun Esq.		6	4		6		16
Revd Wm Vaughan		12					12
Liverpool Rl Instn		20	4		12		36
Kelso Museum		20	4		12		36
Royal Mint		20	4		12 & ingots		36
Lord Fras Egerton		15	2		6		23
Mr J. Alfred Wigan*		4	1		6		11
Mr Atherley*		4	1		6		11
Mr Baron		4	1		6		11
Mr Thos Charles		4	1		6		11
Mr Diamond*		4	1		6		11

	Anglo-Saxon		Continental				
	Alfred	**St Edmund**	**Ch. le Chauve**	**Eudes**	**Cunnetti**	**Sundries**	**Total**
Mr W.B. Bradfield*		4	1		6		11
Mr J.W. Morrison*		4	1		6		11
Mr Lindsay of Cork		4	1		6		11
Capt. James*		4			6		10
Mr Wansey*		4			6		10
Revd G.C. Gorham		4	1		6		11
Mr Mitford, Russell Sqre		4	2		6		12
Mr Jas Bradwell, Salford		2	2		6		10
Mr J. Norris, Redvales, Lancs		2	2		6		10
Revd Wm Nourse, Clapham		2	2		6		10
Mr J.C. Jones, Hanover Sqre*		2	2		6		10
Mr W.D. Saull, Aldersgate St*		2	2		6		10
Mr John Harris, Bath		2	2		6		10
Mr Wm T.P. Shortt, Heavitree*		2	2		6		10
Mr Edwd Pretty, Northampton*		2	2		6		10
Mr H. Wickham, Strood*		2	2		6		10
Mr Jas Brook Pulham, Gower St N.		2	2		6		10
Huntingdon Lity & Scien. Instn		12	4		12		26
John Williams Esqre*		2	2		6		10
Manchester Socy of N. History		20	20		30		70
George Gwilt Esqre		4	4		6		14
Revd Dr Hussey		4	2		6		12
Revd J.W. Mackie*		4	2		6		12
Shropshire & N. Wales Natural Histy Numism & Antiq Soc.		6	4		15		25
Wm Hamilton Esqre*		3	2		6+1 Mark		11
St Omer Museum			6		30		36
T.O. Stevens Esqre*			4		12		16
La ville de Bordeaux			2		12		14
M. Jules Delpit			2		6		8
Essex & Chelmsford Musm			2		18		20
Boulogne Museum			6		36		42
Mr J. Bell, Gateshead			3		12		15
Revd F. Newport [Archangel/Cork]			2		12		14
Mr Jas Fenton (1+)14			2		12		
Margate Lty Sci. Insn			2		18		20
Mr Edwd Hoare, Cork					20		20
Portsmouth & Portsea Socy			2		20		22
Mr R. Benson*					12		12
Revd H. Christmas*					10+2 Bars		10
Antn Socy at Cambridge					20+12 Ditto		20
Revd W.H. Bull					10		10
Mr Chas Warne			1		12		13
Major [Yorke] Moore					15+3 Bars		15
Mr Lindsay					6 Ingots		
Mr Sainthill					Ditto		
Mr W.W. Leycester					12+3 Ditto		12
Mr Hawkins*							Various pieces

Note: the receipt signed by James Fenton, on 26 January 1843, was for fifteen coins because he received a Kufic coin together with the twelve Cunnetti and two Charles the Bald.

3. Additional recipients

As described in Chapter 2 (p. 30), eight further allocations are recorded in the 'Minute Books of the Duchy of Lancaster' (from November 1846 to February 1853) and two in Duchy correspondence and papers (1843–54). These nine individuals and one institution may be listed as follows:

Duchy papers (B3)

Lord Campbell (Chancellor, 1846): 20 Cunnetti, 3 Charles the Bald, & 'specimens of the Silver Bars – or Ingots'
Arthur Hansbrow (Deputy Keeper, Lancaster Castle): a 'gift of coins' (NB: these will have been Cunnetti because he only made his request in November 1853, with his letter of thanks being dated 21 January 1854)

Minute Book: 1845–49

Revd Richard Gordon (Vicar of Elsfield, Oxon): 12 coins
Mr Thomas Walford (Duchy Solicitor, 1846): 12 Cunnetti ('being the only [coins] left of the Cuerdale find', as noted on 18 February 1847)
Mr Chas Stokes* ('private Collector'): 12 Cunnetti
Colchester Museum (Mr Tabor): 12 Cunnetti
Mrs Hamilton Gray: 'a little packet' (of Cunnetti)

Minute Book: 1849–52

Revd Edwd M. Hearn (Hurst Green Parsonage, Blackburn): 6 Cunnetti
Revd Tullie Cornthwaite* (the Forest, Walthamstow): 6 Cunnetti, & 'a few Specimens of the Silver Ingots'

Minute Book: 1852–54

Revd William Greenwell* (Newcastle upon Tyne): 'some Specimens of the remaining Coins'.

4. The recipients: a note

Leaving aside the British Museum and the other forty-one institutions in Britain and Ireland, France and Germany (listed separately below), which are recorded as having been allocated Cuerdale coins, there are 131 individual recipients named in these documents. As described above, in Chapter 2, a distribution committee was established by the Duchy to report to the Court; this sought advice from Edward Hawkins over individuals who had applied for coins, primarily to weed out dealers, although Joseph Kenyon was struck off the list as a result of this procedure (see p. 35, note 20). This committee appears to have been disbanded in June 1841, when the first phase of donations commenced (List 1), after which it seems to have been left to Danvers, as Clerk, to deal with individual cases (in continuing consultation with Hawkins), which he brought before the Court as and when necessary (as p. 27 and note 31).

The initial distribution (List 1)

List 1 contains the names of forty-eight individual recipients during the initial period of distribution up until 3 September 1841, commencing with Queen Victoria, William Assheton and Edward Hawkins himself. Hawkins is the first of the many individuals on this list who may be recognised as current (or future) Members, or Honorary/Associate Members, of the Numismatic Society of London – that is to say twenty-seven out of the remaining total of forty-six – and the names of these individuals have been distinguished with an asterisk (Pagan 1986b, 52–76 and 79–83; I am most grateful to Hugh Pagan for assisting me with these lists and for information about the non-members known to him). Seven of the non-members were Duchy officials (T.F. Ellis, Allen, Teesdale, Lord Clarendon, Holt, Danvers and Sir George Grey), whereas one was already a member (Col. C.R. Fox), and [Sir] William Hardy was to be elected in 1843. Coins were allocated by the Duchy to both Mr Gilbertson [of Preston] and Mr Glover [of Manchester] in recognition of their assistance with the hoard and appearance at the inquest.

Of the four French collectors who were allocated coins, in this initial phase of distribution, Étienne-Jean-Baptiste Cartier and Félicien de Saulcy had been elected Associate Members of the Numismatic Society of London in 1837, but Fougères and Combrouse, joint authors of a then recent book on the Carolingian coinage, were not members. The only collector living in Ireland on List 1 is Richard Sainthill of Cork, who was never a member of the Society, as was likewise the case with his Cork colleagues on List 2.

The twelve remaining individuals who cannot be identified in this way are: Mr [Rev. Edward John] Shepherd [Trottiscliffe, Kent]; Mr [Edward] Lumley [Chancery Lane]; Mr [Rev. C.P.] Price; Col. North [MP]; Lord Morley; W[illiam] H[ulbert] Sheppard [Frome]; Mr Malcolm Clerk [nr Bristol]; Mr [Rev. Daniel Henry] Haigh [see Haigh 1843: coins donated to Yorks Museum, 1843]; Mr Gooch; Mr W[illiam] Stevenson Fitch [Ipswich]; Mr H.W. Chandler; and Mr [George] Sparkes ['late of Madras Civil Service': Bromley, Kent].

A list of seven collectors submitted to the committee by Hawkins included Sheppard, Clerk and Haigh from amongst this list of non-members, together with the following members: Rev. J. Martin, Mr Huxtable; Mr Nightingale; and M. de Saulcy.

The continuing distribution (List 2)

List 2 contains the names of seventy-four individuals who received coins between 3 September 1841 and 6 July 1846, half of whom (thirty-eight) are likewise to be recognised in the list of Members and Associates of the Numismatic Society of London, with several of the exceptions including, as before, both Duchy officials, in the persons of Lord Somerset (Chancellor, 1841–46) and Lady Holland (as the widow of Lord Holland, the Chancellor who had died in 1840, having initiated the distribution process), and those living outside England (with the exception of Dr Aquilla Smith of Dublin). The latter consist of the group of Cork collectors (Lindsay, Hoare, [Sainthill] and Leycester, together with Rev. Francis Newport, who had been Chaplain at Archangel when allocated his coins), Mr Charles de St Croix, resident in Jersey, and six Frenchmen. Five of the French individuals appear as a group (and all got the same allocation of coins, through Hawkins): Baron de Gazan, M. Rollin [a dealer], M. Rousseau, Vicomte de Jessain and Baron de Fornard; whereas M. Jules Delpit was associated with the successful application for coins by 'La ville de Bordeaux'.

The remaining twenty-three individuals are: Mr [John Trotter] Brockett [Newcastle-upon-Tyne]; Sir Samuel Meyrick; Mr Frederick Dixon [Worthing]; Mr Charles Roberts [Record Office, Tower]; Mr A.C. Kirkman [Chancery Lane]; J[ames] Colquhoun Esq. [Diplomatic Agent for the Hanse towns, who

also applied 'on the part of the Public Libraries of Lubeck, Bremen & Hamburgh': St James' Palace]; Revd William Vaughan; Lord Francis Egerton [1st Earl of Ellesmere: Worsley Hall, Manchester]; Mr [George] Baron [Drewton, Yorks: coins in Leeds City Museum]; Mr Thomas Charles [Chillington House, Maidstone]; Rev. G.C. Gorham; Mr Mitford, Russell Square; Mr James Bradwell, Salford; Mr J. Norres, Redvales [Bury], Lancs; Rev. William Nourse, Clapham, Sussex; Mr John Harris, Bath; Mr James Brook Pulham, Gower Street North; George Gwilt Esq. [Architect, FSA: London]; Rev. Dr Hussey [Hayes, Kent]; Mr J. Bell, Gateshead; Mr James Fenton; Rev. W.H. Bull [Sowerby, Halifax]; and Mr Charles Warne [Milbourne St Andrews, Dorset].

The final recipients

Three Members of the Numismatic Society of London are amongst the remaining nine individuals known to have received Cuerdale coins, as listed in Section 3 (above). The others consist of two Duchy officials (Lord Campbell and Mr Thomas Walford) and four English private collectors. Of the latter, Mrs Hamilton Gray, the only woman on the distribution-list (apart from Queen Victoria and Lord Holland's widow) would not have been eligible for election to the Society at this period. The remaining individuals are: Arthur Hansbrow (then Deputy Keeper, Lancaster Castle); Rev. Richard Gordon (Vicar of Elsfield, Oxon); and Rev. Edward M. Hearn (Hurst Green Parsonage, Blackburn).

The institutions

The forty-two institutions known to have been allocated Cuerdale coins are listed below by country, and then in chronological order of donation (England: 28; Scotland: 3; Wales: 1; Ireland: 1; Denmark: 1; France: 4; and Germany: 4), with the total numbers of coins (as listed above):

England: British Museum (1,108+309); Museum of the Chester Mechanics Institution (13+16); Macclesfield Society (13+16); Bristol Institution (13+8); Society of Antiquaries of Newcastle on Tyne (13+8); Warrington Natural History Society (13+16); Numismatic Society of London (15+80); Museum of the Preston Institution for the Diffusion of Useful Knowledge (13+8); Ashmolean Museum, Oxford (40+53); Bodleian, Oxford (45+92); Museum of the United Services Institution, London (13+22); The Oldham Lyceum (12+22); The Mechanics Royal Institution at Salford (12+22); Yorkshire Philosophical Society (7+13); Literary and Philosophical Institution at Preston (12+21); Museum of the Scientific Society at Lancaster (31+22); Royal Manchester Institution 20+17); Saffron Walden Museum (12+10); Liverpool Royal Institution (20+16); Royal Mint (20+16); Huntington Literary and Scientific Institution (12+16); Manchester Society of Natural History (20+50); Shropshire and North Wales Natural History, Numismatic and Antiquarian Society (6+19); Essex and Chelmsford Museum (20); Margate Literary and Scientific Institution (20); Portsmouth and Portsea Literary and Philosophical Society (22); Antiquarian Society at Cambridge (20); and Colchester Museum (12).

Scotland: Hunterian Museum, Glasgow (16+66); Faculty of Advocates, Edinburgh (31+22); and Kelso Museum (20+16).

Wales: The Royal Institution of South Wales, Swansea (13+16); see also 'Shropshire and North Wales Society' (under England).

Ireland: Dublin University (31+22).

Denmark: Danish Numismatic Museum (31+48).

France: Bibliothèque du Roi à Paris (13+159); St Omer Museum (36); La Bibliothèque de Bordeaux (14); and Boulogne-sur-Mer Museum (42).

Germany: Lubeck Library (12+11); Bremen Library (12+11); Hamburgh Library (12+11); and Royal Dresden Museum (31+39).

Appendix 4
Summary List of Coins from the Cuerdale Hoard now in the British Museum
Gareth Williams

This list provides only a summary listing of the coins from the hoard now held by the British Museum. More detailed catalogues will be provided in the relevant volumes of the *Sylloge of Coins of the British Isles*. The catalogue is divided into two sections, covering respectively the registered collection of the British Museum and the collection of the Assheton family, now placed on deposit at the British Museum. ('N' = North 1994)

Part 1: The British Museum Collection

Anglo-Saxon

Mercia

Ceolwulf II (874–9)
- Cross-and-Lozenge (N.429) 2
- Liafwald x2
- Name-in-Field (N.429/1) 1
- Eanred

East Anglia

Ethelred (*c.* 870)
- Temple 1

Oswald (c. 870)
- Letter A/Cross Pattée (N.480) 1
- Christiana Religio (N.480/1) 1

Wessex

Alfred (871–901)
- Cross-and-Lozenge (N.629) 9
- Ciolwulf, Dunna, Eadelm, Eadwulf, Ethelmod, Lulla, Torhtmund, uncertain x2
- London Monogram, without moneyer (N.644) 7
- Late issue, Mint signed (N.642) 3
- Exeter, Winchester x2
- Late issue, Mint signed (N.643) 1
- Gloucester
- Two-Line (N.635–7, 639) 217
- Ælfstan, Ælfwald, Athelulf x3, Aethered x4, Beagstan x4, Beornmer x2, Bernred x7, Berhtere x2, Bernwald, Boga, Buga x6, Byrnhelm x4, Cudbehrt x21, Cuthwulf x4, Cynewulf, Dealinc x2, Dealla x2, Diarwald x4, Dudig x3, Dunna x3, Dunninc x2, Eadwald x15, Ealdwulf, Ecwulf x14, Elda x3, Elfwald x2, Ethered x4, Ethelstan x2, Ethelwine x4, Ethelwulf x4, Garwine, Goda x3, Guthere, Heawulf, Hereferth x7, Heremod, Heremund, Herewulf, Hunberht x2, Iudelbard, Ludig x12, Lulla, Oswulf x4, Samsun x2, Sigewald, Simun, Stefanus, Tilewine x7, Tirwald x5, Wiberht, Wigbald x5, Wine x3, Winig/Winiger x2, Wulfred x17, Wynberht x9
- Two-Line, with Rex Doro inscription (N.638) 22
- Birnwald x4, Diarwald x9, Dunninc x2, Eadvald, Ethelstan x3, Herefreth, Hunfreth, Tirvald
- Two-Line, cut halfpennies (N.635–9) 5
- Two-Line, round halfpenny (N.640) 1
- Cuthberht

Edward the Elder (899–924)
- Bath (N.654) 1
- Two-Line, early (N.649) 22
- Aethered x4, Beornwald, Byrnelm, Wulfeard x3, Wulfred x2, Buga, Cuthberht, Dudig x2, Eadwald x3, Wynberht, Aedelstan, Aethelwulf, Wulfheard

Archbishops of Canterbury

Ceolnoth (833–70)
- Group I, Chi-rho reverse (N.242) 1

Plegmund (890–923)
- First coinage (N.253) 31

Viking

Alfred imitations
- Two-Line, Rex Doro (N.475/1) 48
- Two-Line, Rex Doro halfpenny (cf N.640) 4
- Two-Line (N.475/1) 17
- Two-Line, halfpenny (cf N.640) 7
- London Monogram, without moneyer (N.463) 2
- London Monogram, with moneyer (N.463) 18
- Halfpenny, London Monogram, without moneyer (N.466) 1
- London Monogram, Lincoln (N.470) 1
- London Monogram, 'Roiseng' (N.467) 1
- Oxford, Orsnaforda (N.472) 34
- Oxford (N.473) 1
- Oxford, halfpenny (N.474) 1
- Alfred/St Edmund Memorial mule (N.484) 2
- Alfred Two-Line/ Cnut mule (not in North) 1

East Anglia

Athelstan II/Guthrum (880–90)
- Two-Line type (N.479) 17
- Aelven, Bericbe, Berter x2, Ciolwulf, Ecgwulf, Edelgar, Elda x4, Enondas, Guntere x2, Iudelberd x2, Iudoel

St Edmund Memorial coinage (N.483) 595
- Abbonel x20, Adalbert x48, Adiret x2, Adradus x40, Albert, Alus, Ansiger x27, Aoedinvivm?, Arus x10, Asten, Bado x5, Bascic, Beringar x4, Beslin x3, Bosecin x22, Chenapa x8, Cunrnete x2, Daegmund x53, Eadred, Edwine, Edwulf, Ersalt x7, Eura, Eranovndo?, Fredemund x4, Gislefred x4, Grim x5,Gundbert x2, Haiebert x2, Hamin, x4, Huscam x2, Iaocd x6, Iemsodhr, Iohannes x2, Isembald?, Lairoedbu, Martin x7, Martinus x10, Meuther x2, Oandert x3, Odomer x3, Odulbert x11, Odulf x2, Oid, Onnonea x17, Oswulf, Otbert x5, Otibuinio x14, Quaran x6, Rather/Reart x13, Remigius, Rhdumr, Risleca x11, Robert x2, Sigemund x27, Stein x4, Stephan x2, Tedredo x2, Tedwine x4, Udare x4, Usca x3, Walter, Wandefred x2, Wigbald x7, Winedulf x6, Winiger 27, Winier 41, Wulfold, Uncertain x79,

St Edmund Memorial coinage, ERIAICE CIV
- on reverse (N.483/3) 2

Northumbria

Halfdene (872–8)
- Two-Emperors/London Monogram (N.481) 1
- Halfpenny, Two-Line type (N.482) 1

Earl Sihtric (*c.* 895)
- Gundibert, Shelford (N.529) 1

Cnut (*c.* 900–902)
- Ebraice Civitas (Cross Pattée), EC1/CRC York (N.495) 2
- Ebraice Civitas (Karolus Monogram), EC2/CRG York (N.498) 20
- Ebraice Civitas (Cross Pattée), EC1/SRD York (N.493) 1
- Ebraice Civitas (Cross Pattée), EC1/CRD York (N.496) 3
- Ebraice Civitas halfpenny (Cross Pattée), EC1/CRG York (N.517) 4

Ebraice Civitas halfpenny (Cross Pattée), EC1/CRD York (N.516) 1
Ebraice Civitas halfpenny (Karolus Monogram) EC2/CRG York (N.518) 2
Mirabilia Fecit, MF1/CRG York (N.511) 3
Mirabilia Fecit, MF1/SRG York (N.510) 1
Dns. Ds. Rex, DDR1/CRG York (N.507) 1
Cunnetti, C1/CRCF York (N.499) 9
Cunnetti, C1/CRG York (N.501) 67
Cunnetti halfpenny (Cross Pattée), C1/CRG York (N.519) 6
Cunnetti halfpenny (Karolus Monogram), C2/CRG York (N.520) 8
Cnut/Quentovic 13

Siefred (*c.* 894–8)
Siefredus, S1/CRG York (N.504) 5
Ebraice Civitas (Cross Pattée), EC1/SFRE York (N.494) 2
Ebraice Civitas (Cross Pattée), EC1/CSRC York (N.491) 1
Ebraice Civitas (Cross Pattée), EC1/CSRA York (N.489) 3
Ebraice Civitas (Cross Pattée), EC1/CSRB York (N.490) 3
Ebraice Civitas halfpenny (Cross Pattée), EC1/CSRB York (N.513) 1
Siefredus, S1/REXF York (N.503) 2

Sievert (*c.* 895–902)
Ebraice Civitas (Cross Pattée), EC1/SRD York (N.493) 4
Ebraice Civitas (Cross Pattée), EC1/CRG York (N.497) 1
Ebraice Civitas (Cross Pattée), EC1/SRB York (N.492) 1
Mirabilia Fecit, MF1/SRG York (N.510) 2
Mirabilia Fecit halfpenny, MF1/SRG York (N.522) 1
Dns.Ds.Rex, DDR1/SRG York (N.506) 9

Cnut and Siefred (*c.* 895–902)
Mirabilia Fecit, MF1/ECG York (N.512) 11
Dns.Ds.Rex, DDR1/ECG York (N.508) 2
Mirabilia Fecit, MF1/DDORA (N.509) 12
Alvvaldus, A1/DDORA (N.505) 1

Carolingian

Charles the Bald (*c.* 840–77) 50
Angers x2, Arras, Blois x2, Bourges, Bruges x2, Cambrai, Chartres, Clermont x2, Curtisasonien, Évreux, Laon, Le Mans x5, Melle x17, Nantes, Nevers, Noyon, Orléans x2, Paris x2, 'Porcocastello', Quentovic, Saint Denis, Sens, Soissons, Tours

Carloman (*c.* 879–84) 1
Limoges

Louis II (*c.* 877–9) 2
Namur, Tours

Odo (*c.* 887–98) 23
Angers x3, Blois x2, Compiègne, Laon, Limoges x6, Orléans, Toulouse, Tours x8

Temp. Charles the Simple (*c.* 893–929) 5
Beauvais, 'Boionia' (Boulogne?), Limoges, Melle, St Omer

'Charles the Emperor' 4
Bourges, Metz, Nevers, Toulouse

Louis the Child (*c.* 889–911) 9
Constance, Mainz x2, Namur, Strasbourg x3, Würzburg, unidentified

Louis the Blind (*c.* 887–928) 2
Provence x2

Berengar (898–924) 3
Christiana Religio x3

Lambert (894–8) 2
Christiana Religio x2

Christiana Religio derivatives or imitations 4

Imitation or derivative of Louis the Child, Lorraine type 1

Imitation or derivative of Lambert 1

Uncertain fragments 11

Rome

Pope Benedict IV 1

Danish 3

Islamic

Dirhams 12

Total 1,427

Part 2: The Assheton collection

Anglo-Saxon

Mercia
Ceolwulf (874–9)
Two Emperors (N.428) 1
Ealdwulf

East Anglia
Æthelred (*c.* 870)
Temple (N.488) 2
Blundered, uncertain (cut quarter)

Wessex
Alfred (871–99)
Voided Cross/Quatrefoil (N.634) 1
Luda
Cross-and-Lozenge (N.629) 3
Burtwald, Wulfeard, Wulfred
London Monogram, without moneyer (N.644) 8
Halfpenny, as above (N.645) 1
London Monogram, with moneyer (N.646) 1
Tilewine
Oxford (N.646/1) 1
Bernwald
Two-Line (N.635–7, 639) 21
Æthelwulf, Æthered, Bernred x2, Buga, Burnhelm, Cuthbert x2, Cuthwulf, Dealla, Dudig, Dunna, Eadwald, Eadweard, Ecwulf, Ethelwin, Gilewulf, Goda, Hunberht, Ludig, Oswulf
Two-Line, Rex Doro (N.639) 5
Biarnard, Diarwald, Elfstan, Ethelred, uncertain

Edward the Elder (899–924)
Portrait (N.651) 4
Æthered, Cudberht, Dudig, Wulfred
Two-Line (N.649) 6
Æthered x2, Buga, Dudig, Ludbern, Wulfard

Archbishops of Canterbury
Æthelred (870–89)
Two-Line (N.252) 1
Elfstan

Plegmund (890–923)
Doro (N.254) 3
Diarmund, Eadmund, Hunfrith
Two-Line, Class I (N.253) 1
Hunfrith
Variant of above, with pellets rather than crosses on reverse 3
Birnad, Bruned, Elfstan

Viking

Alfred imitations
- Orsnaforda (N.472) 6
- Halfpenny, as above (N.474) 1
- Halfpenny, as above with cross on reverse (N.475) 1
- London Monogram, 'Roiseng' (N.467) 1
- Two-Line 8
- Diaryt, Ludig, Oswulf, Woberht, Wulfred x2, uncertain x2

Anglia

Athelstan II/Guthrum (880–90)
- Two-Line (N.479) 3
- Berter, blundered x2

St Edmund Memorial (*c.* 895–910) (N.483) 46
- Abbonel, Adalbert x5, Adradus x4, Albert x5, Ansiger x3, Arus, Bonec, Chenapa x2, Dægmund x5, Ersalt x3, Hamin x2, Martin, Reart, Sigemund x5, blundered x6, uncertain
- Variant of above, with ALFRED REX DO reverse 1

Northumbria

Siefred (*c.* 894–8)
- Ebraice Civitas (Cross Pattée), EC1/CSRA York (N.494) 3
- Siefredus, S1/REXE York (N.502) 2
- Dns.Ds.Rex, DDR1/SRG York (N.506) 3
- Mirabilia Fecit, MF1/SRG York (N.510) 1
- Siefredus, S1/REXF York (N.503) 3
- Ebraice Civitas (Cross Pattée), EC1/CSRA York (N.489) 2
- Ebraice Civitas (Cross Pattée), EC1/SRD York (N.493) 3
- Ebraice Civitas (Cross Pattée), EC1/CSRB York (N.490) 4

Cnut (*c.* 900–902)
- Cunnetti halfpenny (Karolus Monogram), C2/CRG York (N.520) 7
- Ebraice Civitas (Karolus Monogram), EC2/CRG York (N.498) 1
- Ebraice Civitas halfpenny (Karolus Monogram), EC2/CRG York (N.518) 2
- Cunnetti, C1/CRG York (N.501) 50
- Cunnetti, C1/CRCF York (N.499) 4
- Cunnetti, C1/CRD York (N.500) 2
- Cunnetti halfpenny (Cross Pattée), C1/CRG York (N.519) 3
- Mirabilia Fecit, MF1/DDORA York (N.509) 7
- Mirabilia Fecit halfpenny, MF1/DDORA York (N.521) 1
- Quentovici, Danelaw Imitation? (N.524) 2
- Quentovici, Danelaw Imitation? (N.523) 1
- Dns.Ds.Rex, DDR1/ECG York (N.508) 1
- Alvvaldus, A1/DDORA York (N.505) 1
- Ebraice Civitas (Cross Pattée), EC1/CRG York (N.497) 19
- Mirabilia Fecit, MF1/CRG York (N.511) 1
- Ebraice Civitas (Cross Pattée), EC1/CRCF York (N.495) 15
- Ebraice Civitas (Cross Pattée), EC1/CRD York (N.496) 1
- Ebraice Civitas halfpenny (Cross Pattée), EC1/CRG York (N.517) 4
- Ebraice Civitas halfpenny (Karolus Monogram), EC2/CRG York (N.518) 1
- Mirabilia Fecit, MF1/ECG York (N.512) 11
- Mirabilia Fecit, MF1/CRG York (N.511) 8

Carolingian

Louis the Child (*c.* 899–911) 4
- Strasbourg, Christiana Religio x3

Berengar (898–924) 2
- Christiana Religio x2

Carloman (*c.* 879–84) 1
- Limoges

Temp. Charles the Simple (*c.* 893–929) 13
- Bourges, Clermont Ferrand, Limoges, Melle x7, Uncertain x3

Gratia D-I Rex 13
- Angers x2, Arles, Arras, Blois x2, Bruges, Chartres, Le Mans x2, Melle, Tours, uncertain

Odo (*c.* 887–98) 8
- Angers x2, Blois, Limoges x3, Toulouse, Tours

Lambert (894–8) 1
- Christiana Religio

Islamic

Dirhams, mostly fragmentary 13

Byzantine

Heraclius and Heraclius Constantine (615–30) 1

Total **345**

Appendix 5
List of Coins in the Goldsborough Hoard
Gareth Williams

The list below contains all the recorded coins from the Goldsborough hoard (**3**), all of which were registered as acquisitions by the British Museum (see above, pp. 236–7). As discussed above, there are discrepancies between the registers and early published accounts, and not all of the coins can be traced today. Each description is based on the coin itself, where this can be traced, but otherwise on the register entries, although with normalised spelling. Where possible, a concordance has been provided between the register entries and the listing by Vaux (1861), in the *Numismatic Chronicle* (hereafter *NC*), but in some cases the information in one or both lists is too incomplete for them to be married up. Where there are discrepancies between the surviving coin and the early lists, the version in the lists is given in brackets.

Registration	Ruler	Mint	Date (AH)	Description	Extant	NC ref
1859,0726.1	Alfred AD 871-99	–	–	*Elimosina* offering piece, cut half	Y	Y
1859,0726.2	Edward AD 899-924	–	–	Two-Line type, HT1, moneyer Edellarf	Y	Y
1859,0726.3	?	?	?	'Cufic Oriental Vaux'	Y?[1]	3?
1859,0511.12	Edward	–	–	Two-Line type, HP1, moneyer Æðelulf	Y	N
1859,0511.13	Ismail b. Ahmad AH 279-89	?	?	Half	?[2]	19
1859,0511.14	Ismail b. Ahmad	Al Shash	282	Half	?[3]	10
1859,0511.15	Ismail b. Ahmad	Samarkand	286	Mutilated		12
1859,0511.16	Ismail b. Ahmad	Al Shash	286	Partially cut	Y	11
1859,0511.17	Ismail b. Ahmad	Samarkand	288	Pierced with a hole		13a
1859,0511.18	Ismail b. Ahmad	Al Shash	__8	Half	?[4]	22
1859,0511.19	Ismail b. Ahmad	Al Shash	289	Broken into two pieces		13b
1859,0511.20	Ismail b. Ahmad	Al Shash (Samarcand in *NC*)	291	Perfect		14
1859,0511.21	Ismail b. Ahmad	Al Shash	291	Half	Y	15
1859,0511.22	Ismail b. Ahmad	Samarkand	292	With a cut across	Y	18
1859,0511.23	Ismail b. Ahmad	Al Shash	292	Mutilated	Y	17
1859,0511.24	Ismail b. Ahmad	Nishapur (Samarcand in Register and *NC*)	29_ (294 in Reg. and *NC*)	Perfect	Y	20
1859,0511.25	Ismail b. Ahmed	?	29_	Imperfect		21
1859,0511.26	Ahmad b. Ismail	?	298	Half		24/25
1859,0511.27	Ahmed b. Ismail	?	298	Half		24/25
1859,0511.28	Ahmad b. Ismail	Andarabah	300	Cracked	Y	
1859,0511.29	Nasr b. Ahmad II	?	?	Half		26
1859,0511.30	Uncertain	?	?	Quarter	?[5]	
1859,0511.31	Al Mu'tamid	Al Shash	280	Broken into two (only one part survives)	Y	7
1859,0511.32	Al Muktafi	?	289	Fragment		
1859,0511.33	Al Muktafi	?	292	Half		6
1859,0511.34	Al Muktafi	?	296	Broken into two		
1859,0511.35	Muhammad b. Ahmed	Volga Bulghar imitation, Andarabah (Al Shash in Reg.)	276	Battered	Y	1
1859,0511.36	Uncertain	?	?	Half		
1859,0511.37	Uncertain	?	?	Fragment		
1859,0511.38	Uncertain	?	?	Fragment		
1859,0511.39	Uncertain	?	?	Fragment	?[6]	
1859,0511.40	Uncertain	?	?	Fragment		
1859,0511.41	Uncertain	?	?	Fragment		
1859,0511.42	Uncertain Samanid imitation	?	?	Battered and bent, double lines around edge	Y	
1859,0511.43	Tahir b. al-Husain	Samarkand	205–07	Broken	Y	2
1859,0511.44	Uncertain	?	?	Broken		
1859,0511.45	Uncertain	?	?	Fragment		
1859,0511.46	Uncertain	?	?	Entirely smooth, bent and broken		
1859,0511.47	Uncertain	?	?	Nearly obliterated, perfect		5?

Notes

1 This probably corresponds with an extant coin of Tahir b. Muhammed (AH 288–96), issued at Fārs in AH 294. Found in Mr Vaux's table. The patina of the coin is compatible with other surviving coins from the hoard, and the coin listed as no. 3 in *NC* as a coin of AH 290–9 'bearing the name of Taher' must be a coin of this ruler. The coin is nearly complete, with a chip from one side, and pierced for suspension. If this coin is correctly identified with *NC* no. 3, it must be 1859,0726.3, since all the other coins in the registers which lack corresponding numbers in *NC* have descriptions which rule out this coin.

2 Probably corresponds with a cut half of this ruler, minted in AH 293 in Ma'dan, corresponding with the details given for *NC* no. 19. Found in Mr Vaux's table.

3 This can probably be identified with a cut half with tickets indicating that it comes from the hoard, but lacking the final digit of its registration number. The extant coin has a legible date only of __2. This, combined with the other details, would be consistent with the date of 282 in the register, although a date of 292 is now preferred. However, if we consider a coin with only a single legible digit, but otherwise matching details, the coin could also be 1859,0511.18, with a date in the register of __8.

4 See previous note.

5 May correspond with a surviving Samanid fragment of uncertain ruler, date and mint. Found in Mr Vaux's table. The shape of the fragment corresponds closely with that of a sketch in the register, but the inscription corresponds less well with the sketch.

6 Possibly corresponds with a surviving Samanid fragment of uncertain ruler and mint. Found in Mr Vaux's table. The shape of the fragment corresponds well with that of a sketch in the register, but the inscription does not correspond at all, while the date of AH 316 is a few years later than the last closely dateable coin in the hoard and would call the whole dating of the hoard into question. This identification seems considerably less likely than the other fragments from Mr Vaux's table and has only been included to cover all possibilities.

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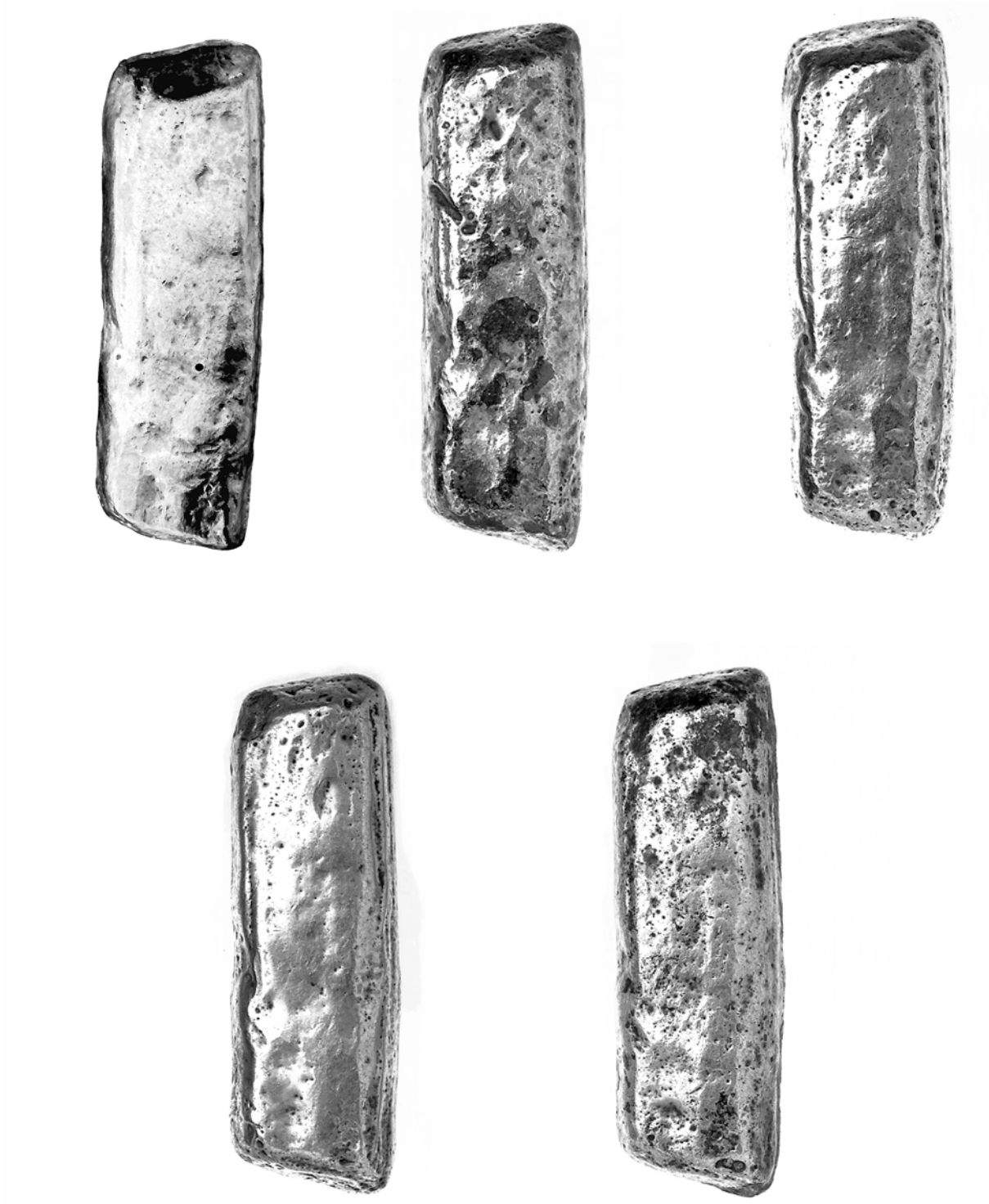


Plate 1 Cuerdale hoard, Lancs: silver 'mark' ingots (**1:1-3; 1:4-5**)

Plate 2 Cuerdale hoard: silver 'mark' ingots (**1:6-8; 1:9-11**)

Plate 3 Cuerdale hoard: oblong silver ingots (**1:12-16; 1:17-21**)

Plate 4 Cuerdale hoard: oblong silver ingots (**1:22-7; 1:28-33; 1:34-9**)

Plate 5 Cuerdale hoard: oblong silver ingots (**1:40-5; 1:46-51; 1:52-7**)

Plate 6 Cuerdale hoard: oblong and ovoid/circular silver ingots (**1:58-64; 1:65-72; 1:73-8** and **141-2; 1:143-50; 1:151-8**)

Plate 7 Cuerdale hoard: oblong silver ingots (**1:79-84** and **274** = fragment; **1:85-8** and **159-62**), and ex-Parkes Weber ingots (**1:90, 246-8** = terminals, and **328** = fragment)

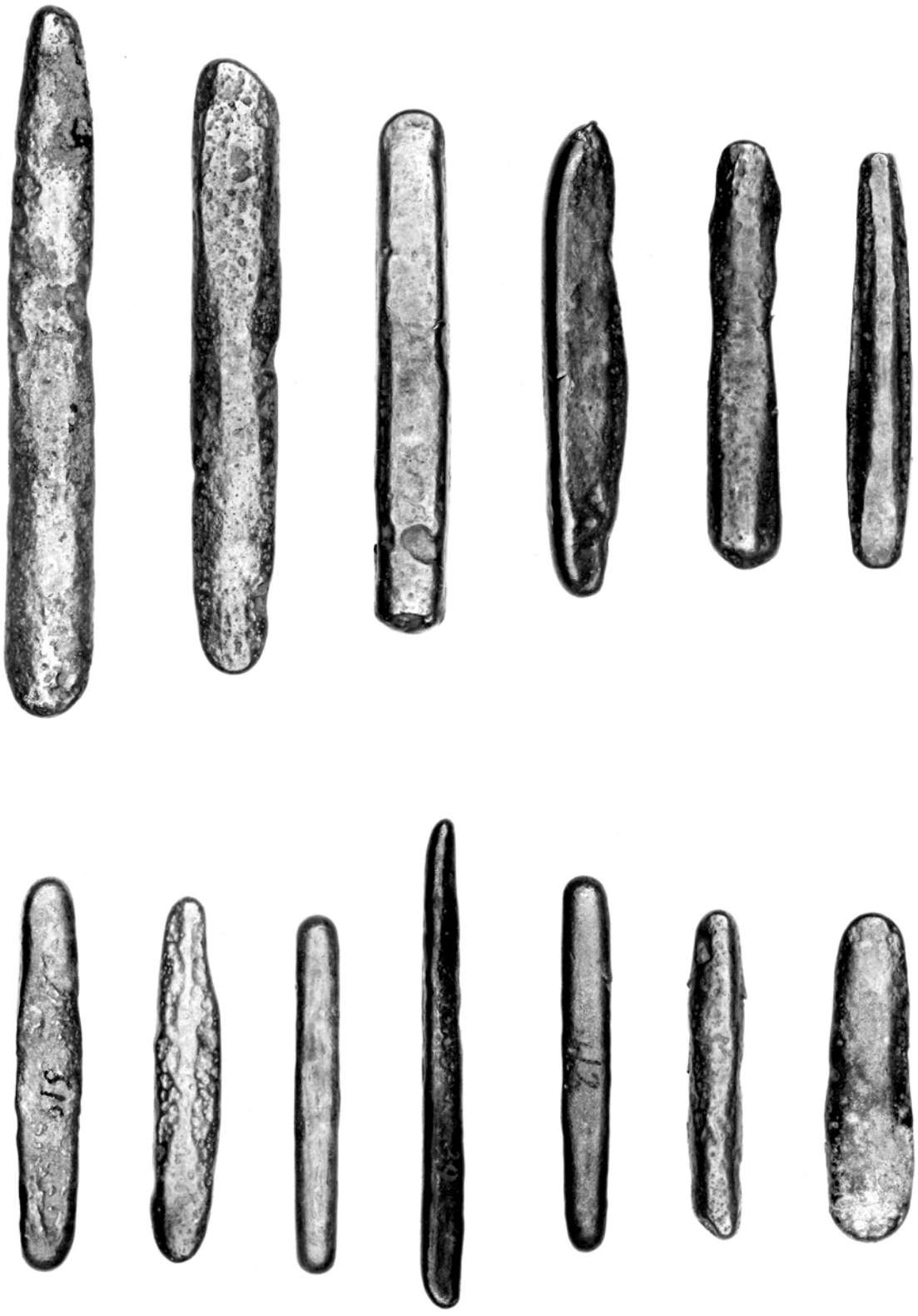


Plate 8 Cuerdale hoard: oblong silver ingots (**1:91-6; 1:97-103**)

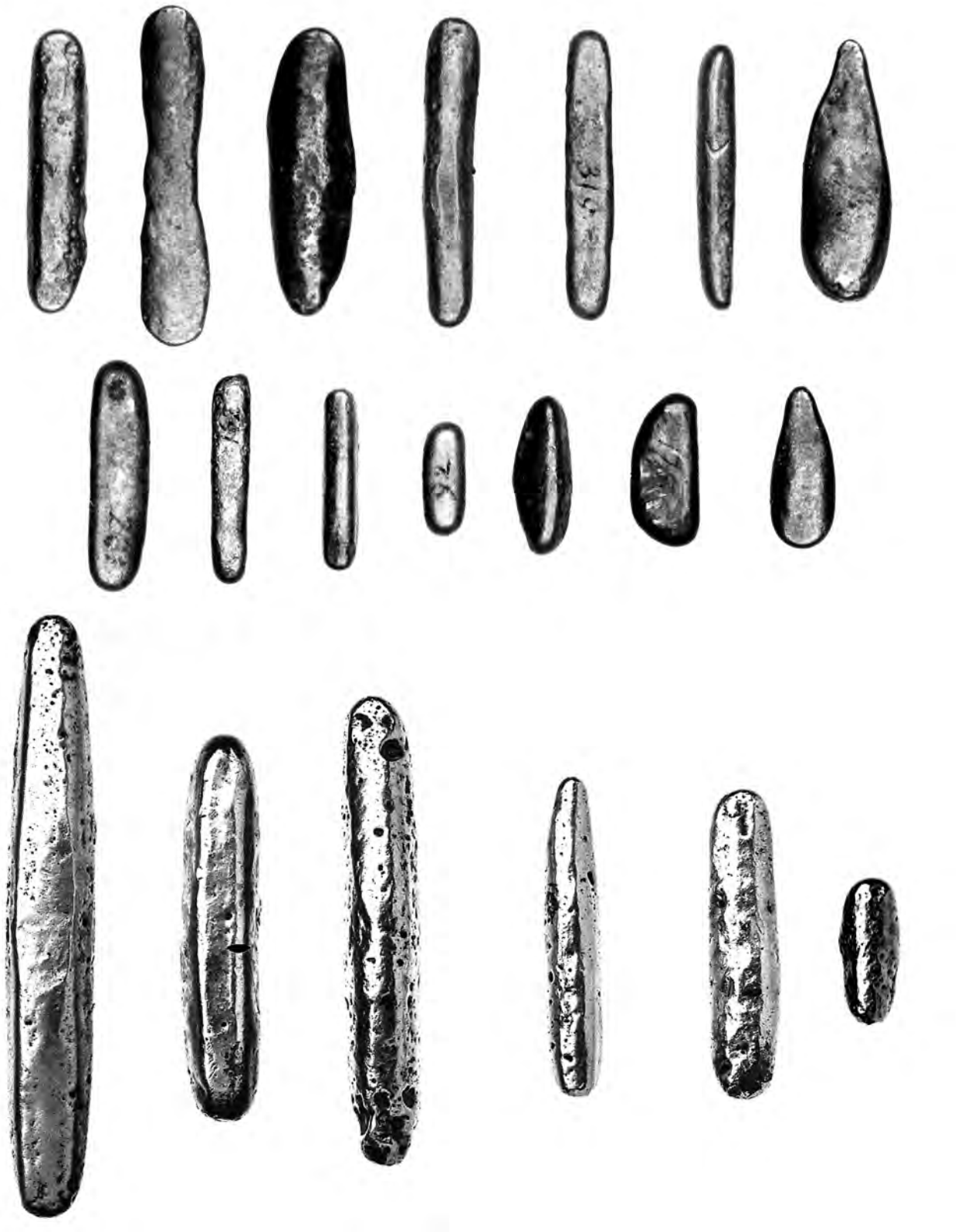


Plate 9 Cuerdale hoard: oblong ingots (**1:104-10; 1:111-17; 1:118-23**)

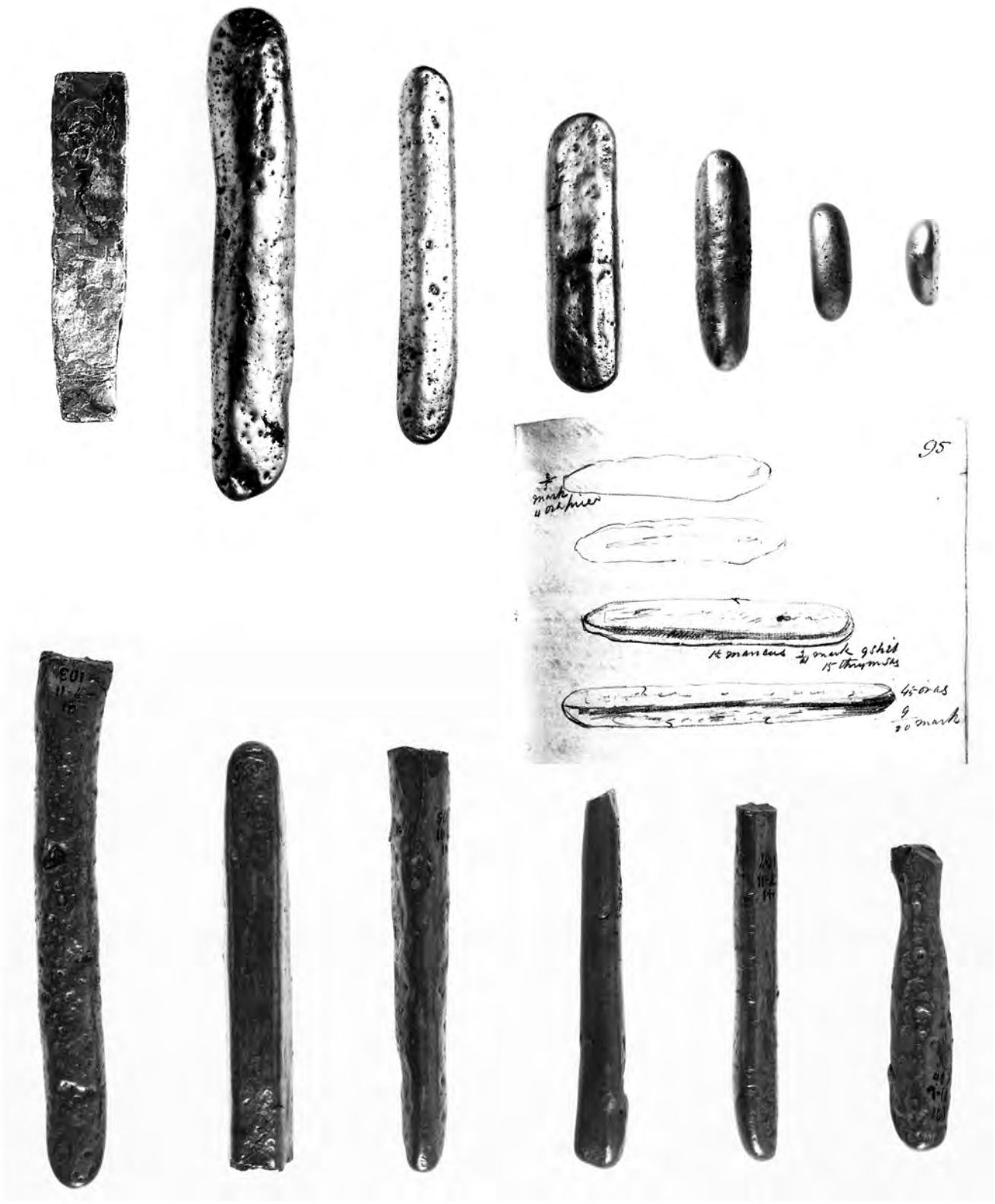


Plate 10 Cuerdale hoard: oblong silver ingots (**1:124-30; 1:138-40** (lost: after Roach Smith); **1:197-202** = terminals)

Plate 11 Cuerdale hoard: miscellaneous silver ingots (**1:131-7** = complete (FM/CAA), and **273** = terminal; **1:357-60** = fragments (FM), and **196** = complete; (all NMS) **1:136** = complete, **272** = terminal, and **361** = fragment)

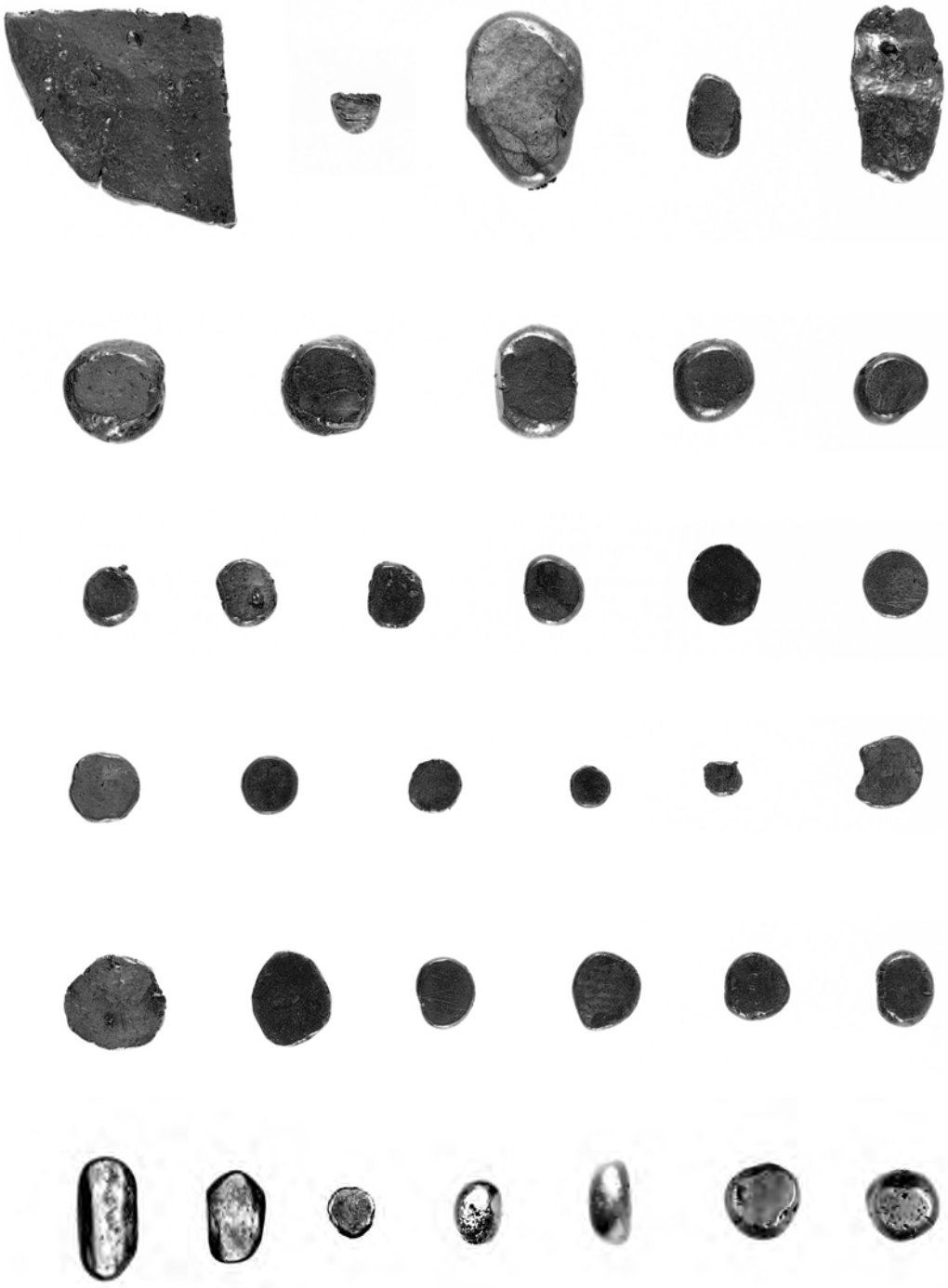


Plate 12 Cuerdale hoard: ovoid/circular and oblong silver ingots (**1:362** = cut, **363** = terminal, **89** and **163-4; 1:165-9; 1:170-5; 1:176-9** and **181-2; 1:183-8; 1:189-95**)

Plate 13 Cuerdale hoard: oblong silver ingot terminal fragments (**1:203-8; 1:209-14; 1:215-20; 1:221-7**)

Plate 14 Cuerdale hoard: oblong silver ingot terminal fragments (**1:249-54; 1:255-8; 1:259, 267-69** and **260-1; 1:262-6** and **270-1**)

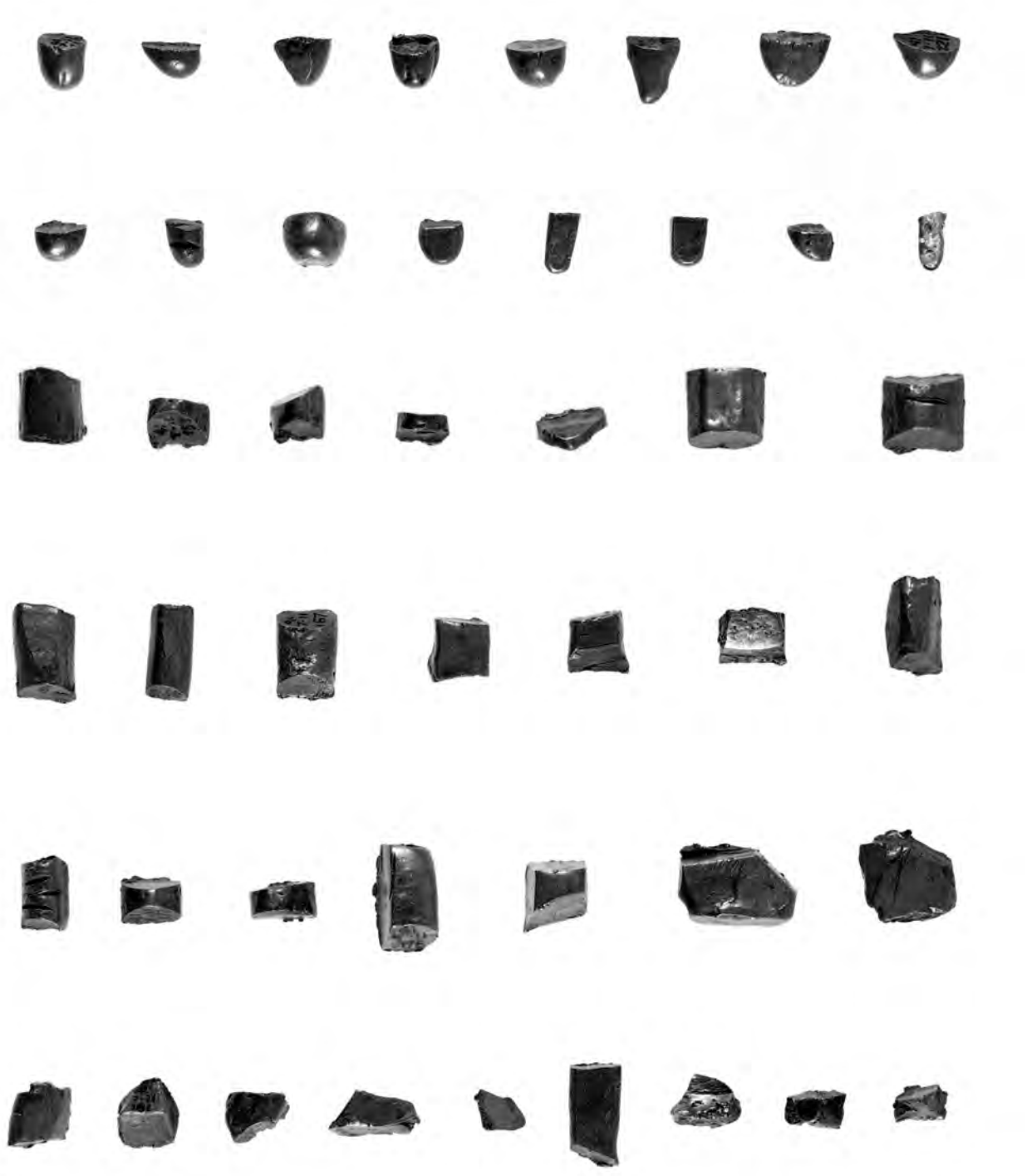


Plate 15 Cuerdale hoard: silver ingot terminal fragments (**1:231-8; 1:239-45** and **249**), and fragments (**1:298-304 1:305-11; 1:312-16** and **229-30**; **1:317-25**)

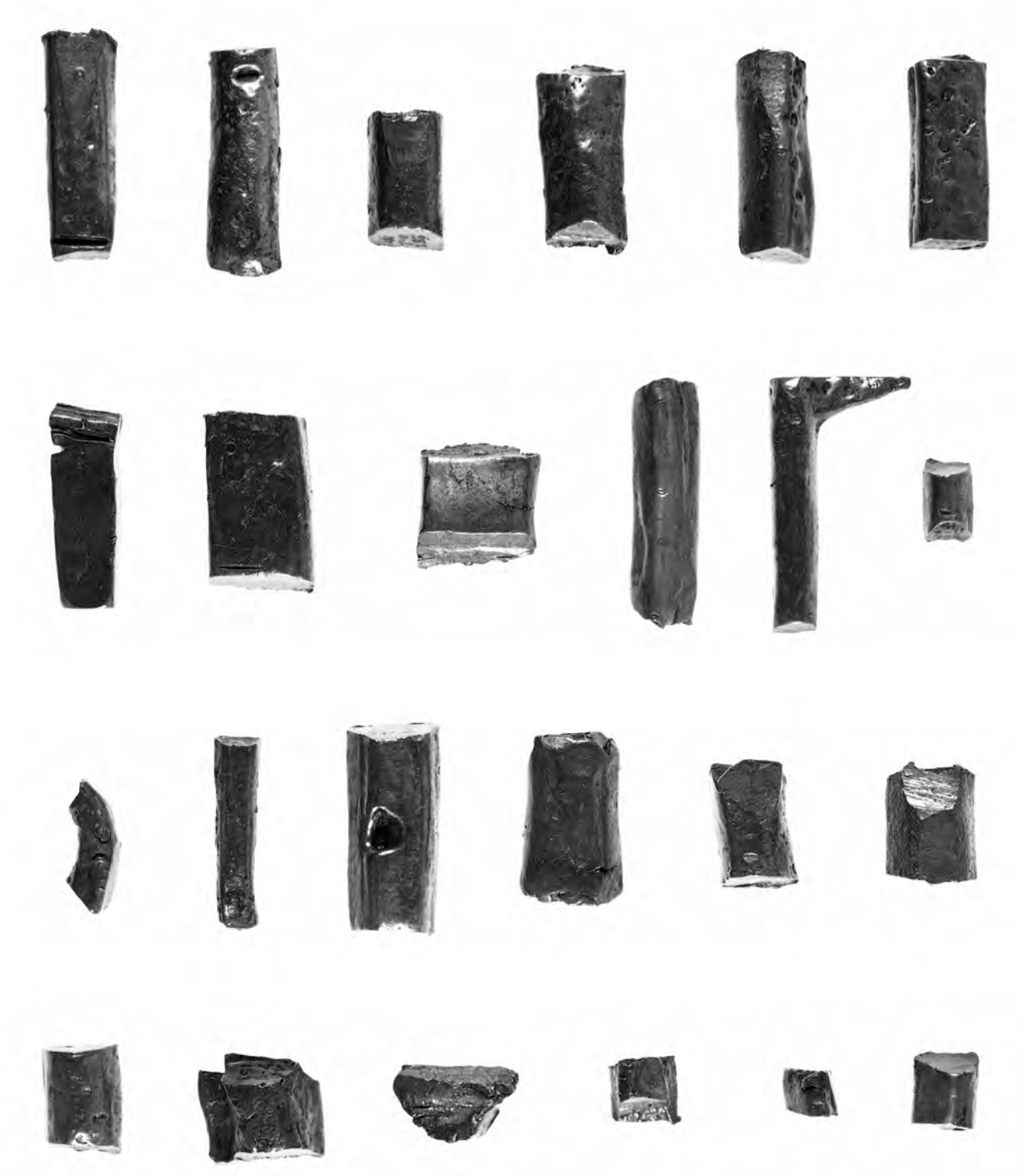


Plate 16 Cuerdale hoard: silver ingot fragments (**1:275-80; 1:228** and **281-5; 1:286-91; 1:292-7**)

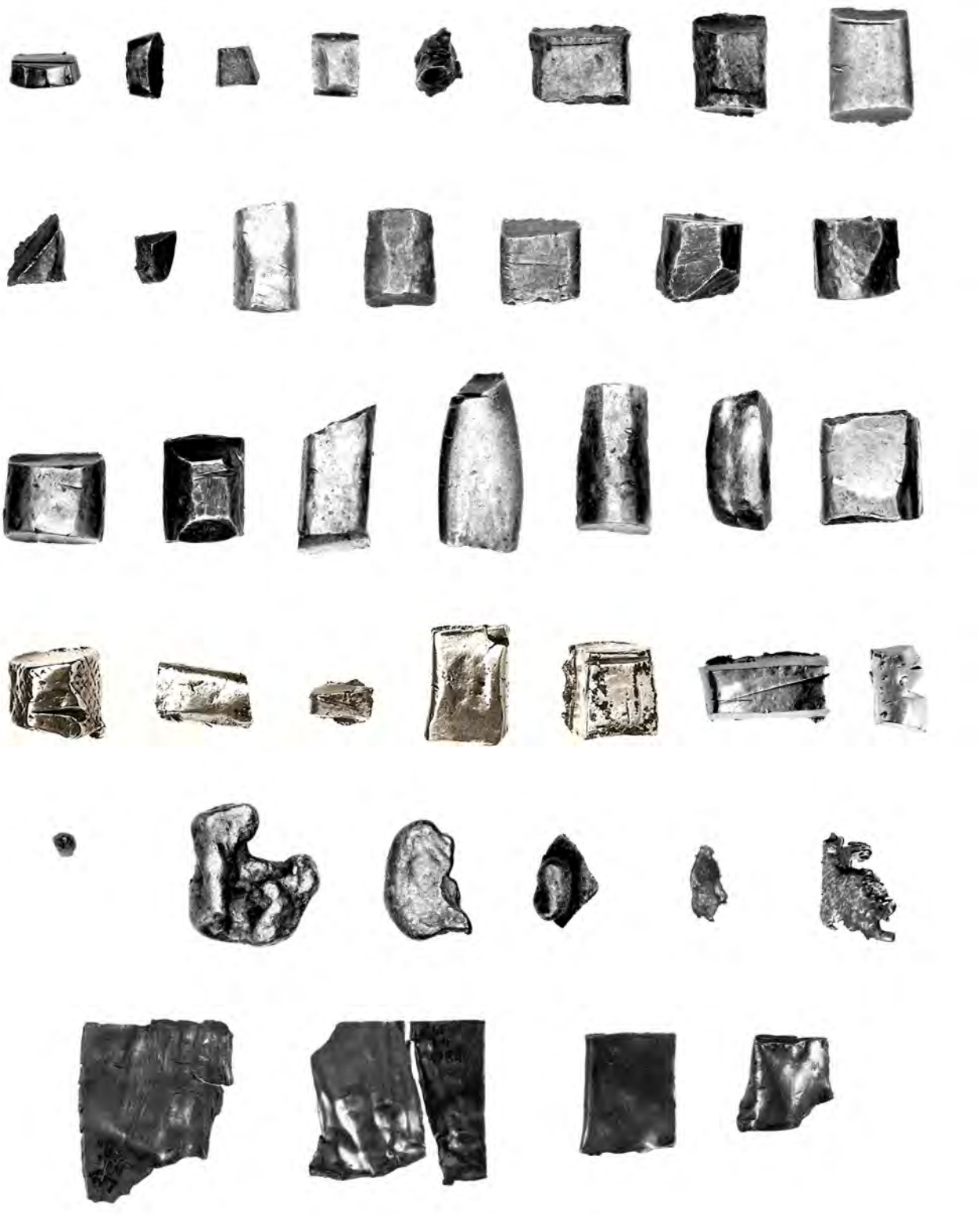


Plate 17 Cuerdale hoard: silver ingot fragments (**1:327** and **329-35; 1:336-42; 1:343-9; 1:350-6**), casting waste (**1:364-9**), and sheet scrap (**1:370-3**)

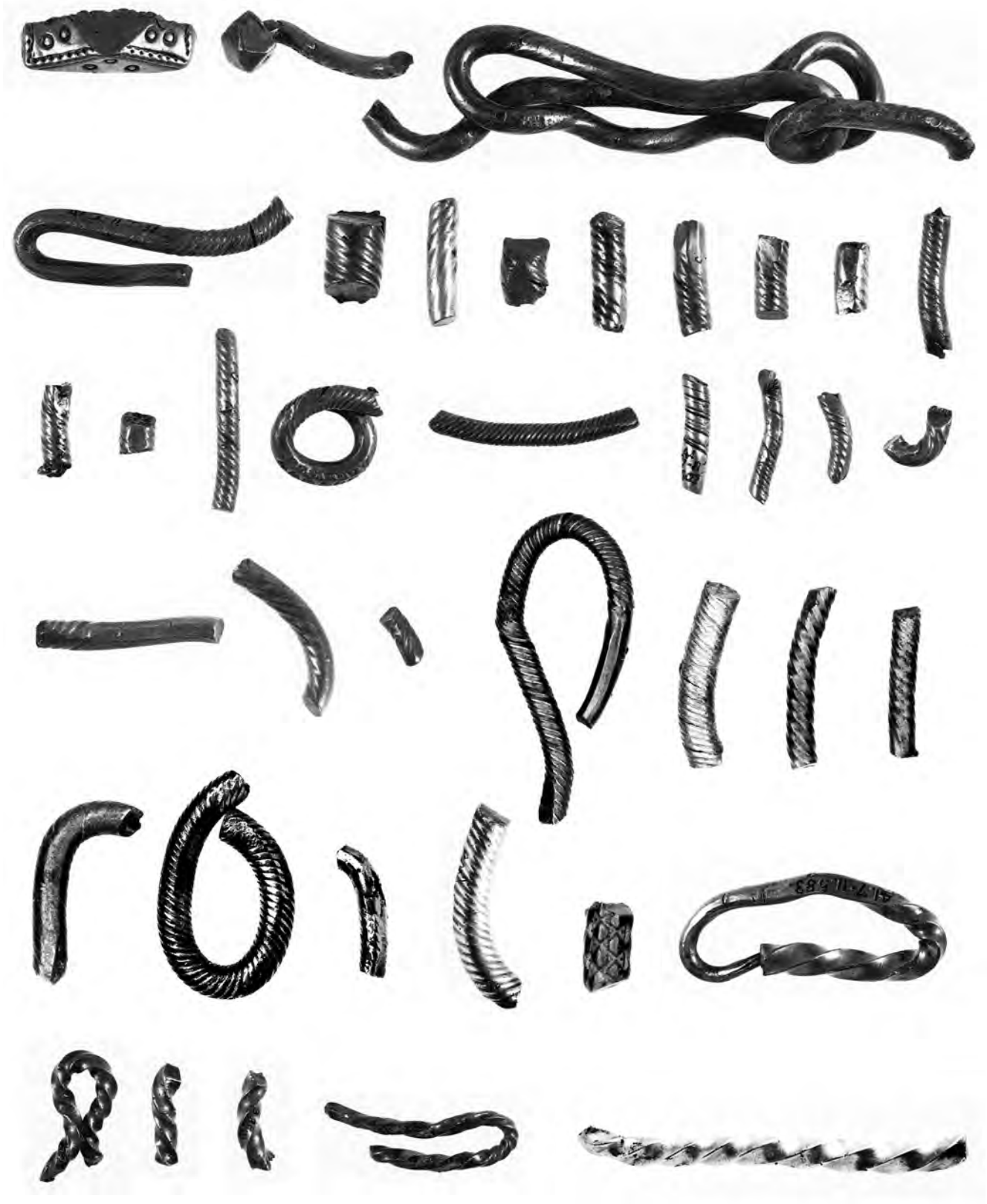


Plate 18 Cuerdale hoard: silver spiral-ring fragments (**1:374-6; 1:377-85; 1:386-94; 1:395-407; 1:408-12**)

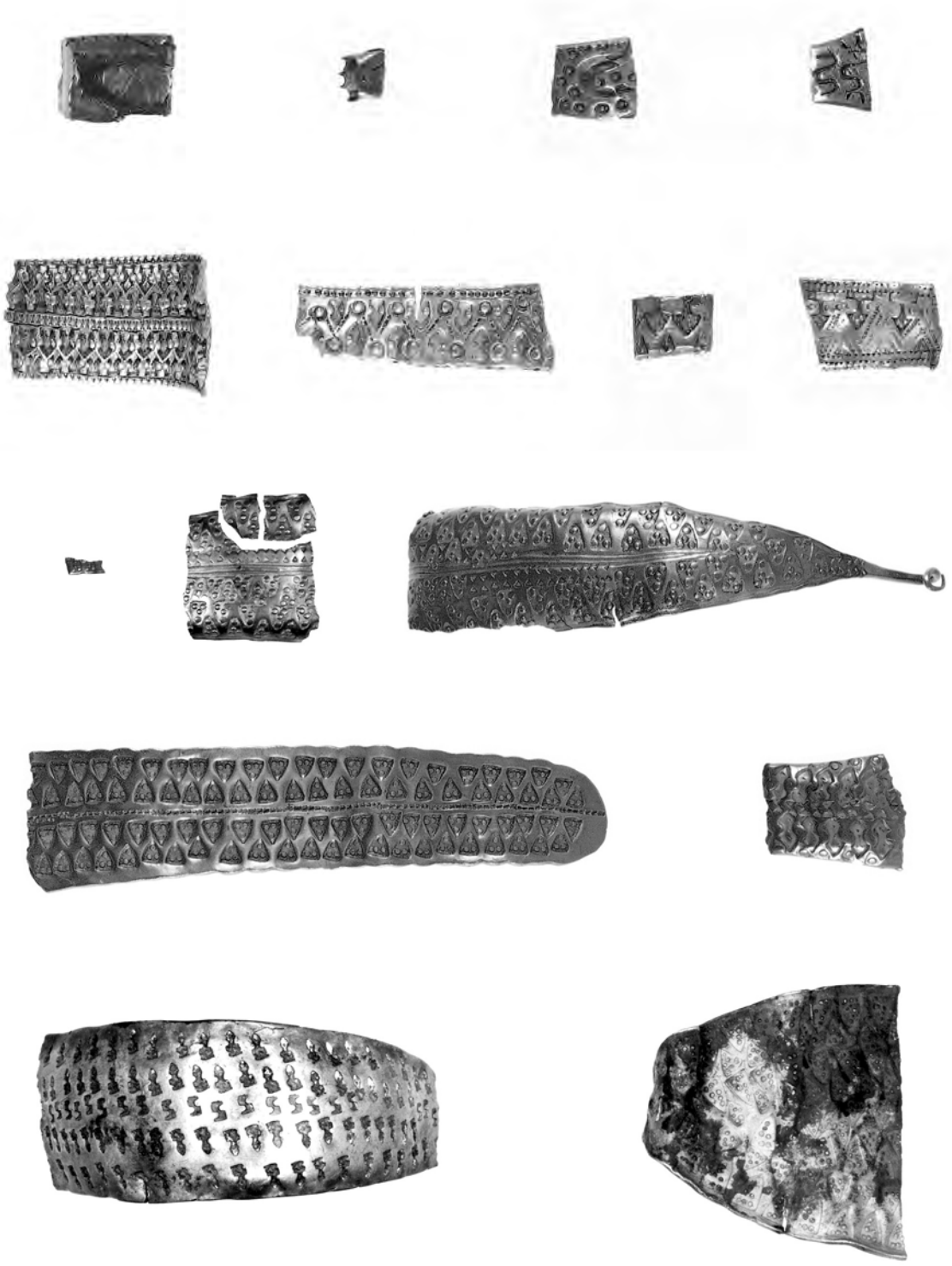


Plate 19 Cuerdale hoard: silver band arm-ring and fragments (**1:413-16; 1:417** and **421-3; 418** (in 5 pieces); **1:419-20; 1:424-5**)

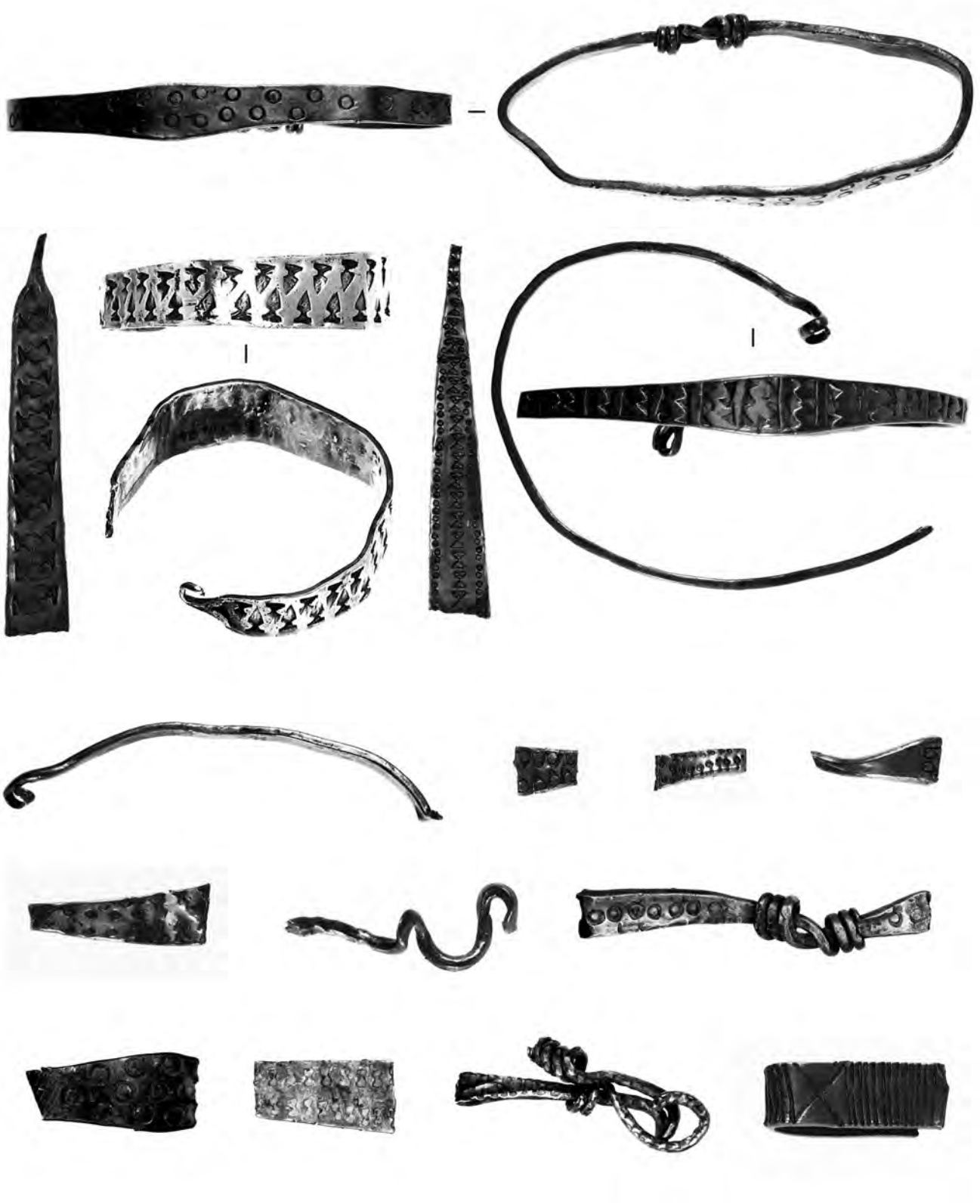


Plate 20 Cuerdale hoard: silver narrow-band arm-ring and fragments (**1:426; 1:427-30; 1:431-5; 1:436-8; 1:439-42**)

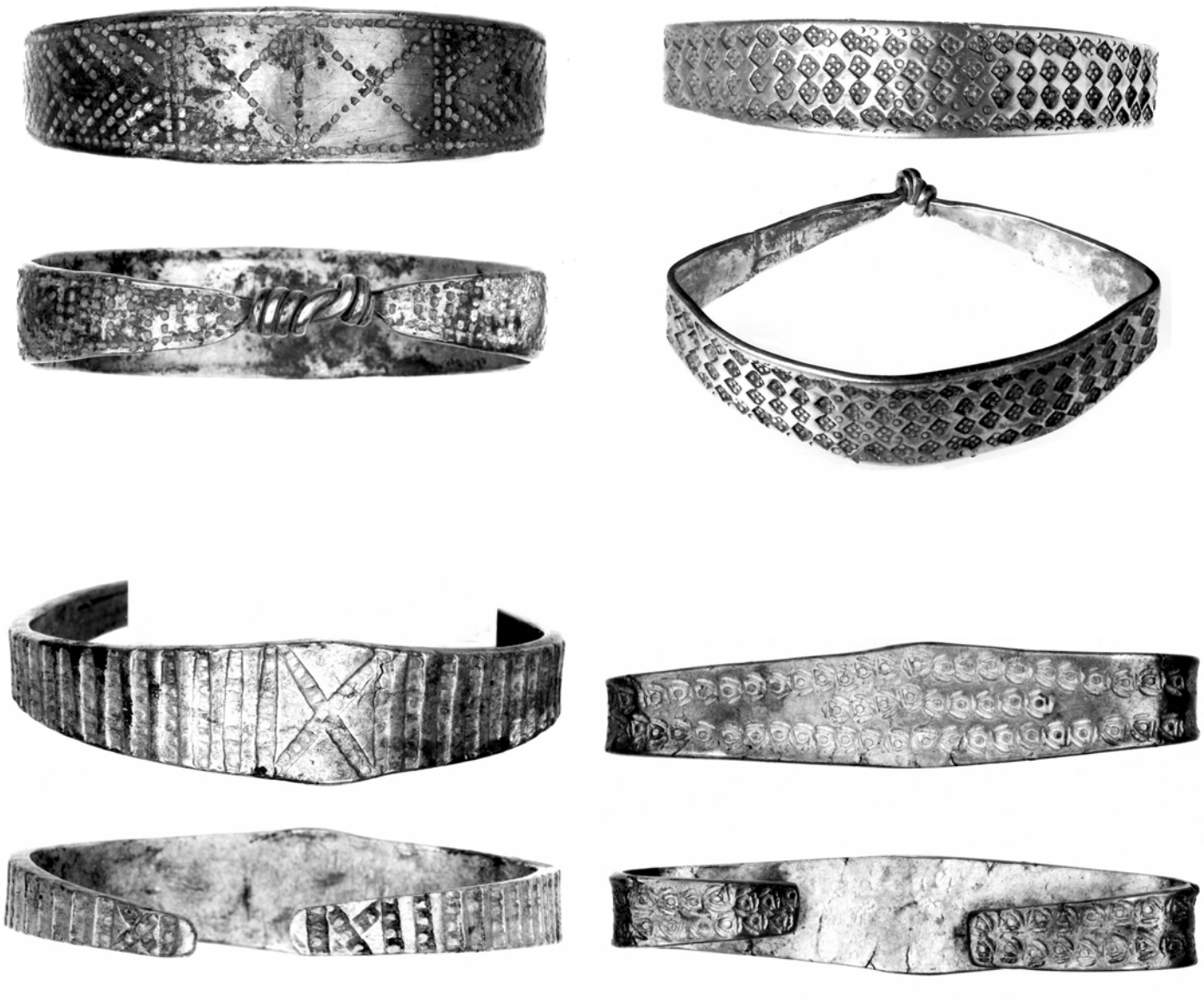


Plate 21 Cuerdale hoard: silver Hiberno-Scandinavian broad-band arm-rings (**1:443-4; 1:445-6**)

Plate 22 Cuerdale hoard: silver Hiberno-Scandinavian broad-band arm-rings (**1:447; 1:448-9**)

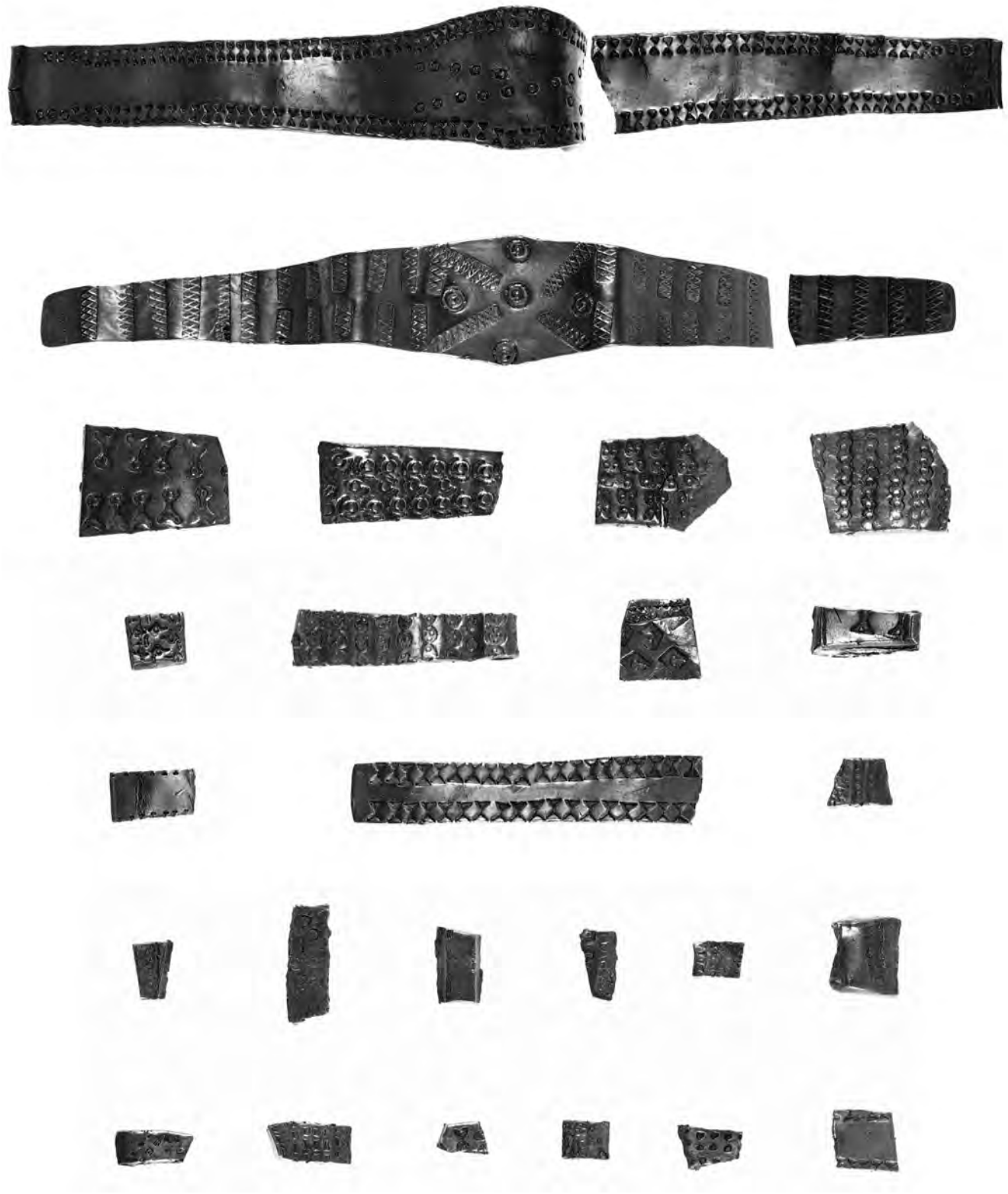


Plate 23 Cuerdale hoard: silver Hiberno-Scandinavian broad-band arm-ring fragments (**1:450-1; 1:452-3; 1:456-9; 1:460-3; 1:464-6; 1:467-72; 1:473-8**)

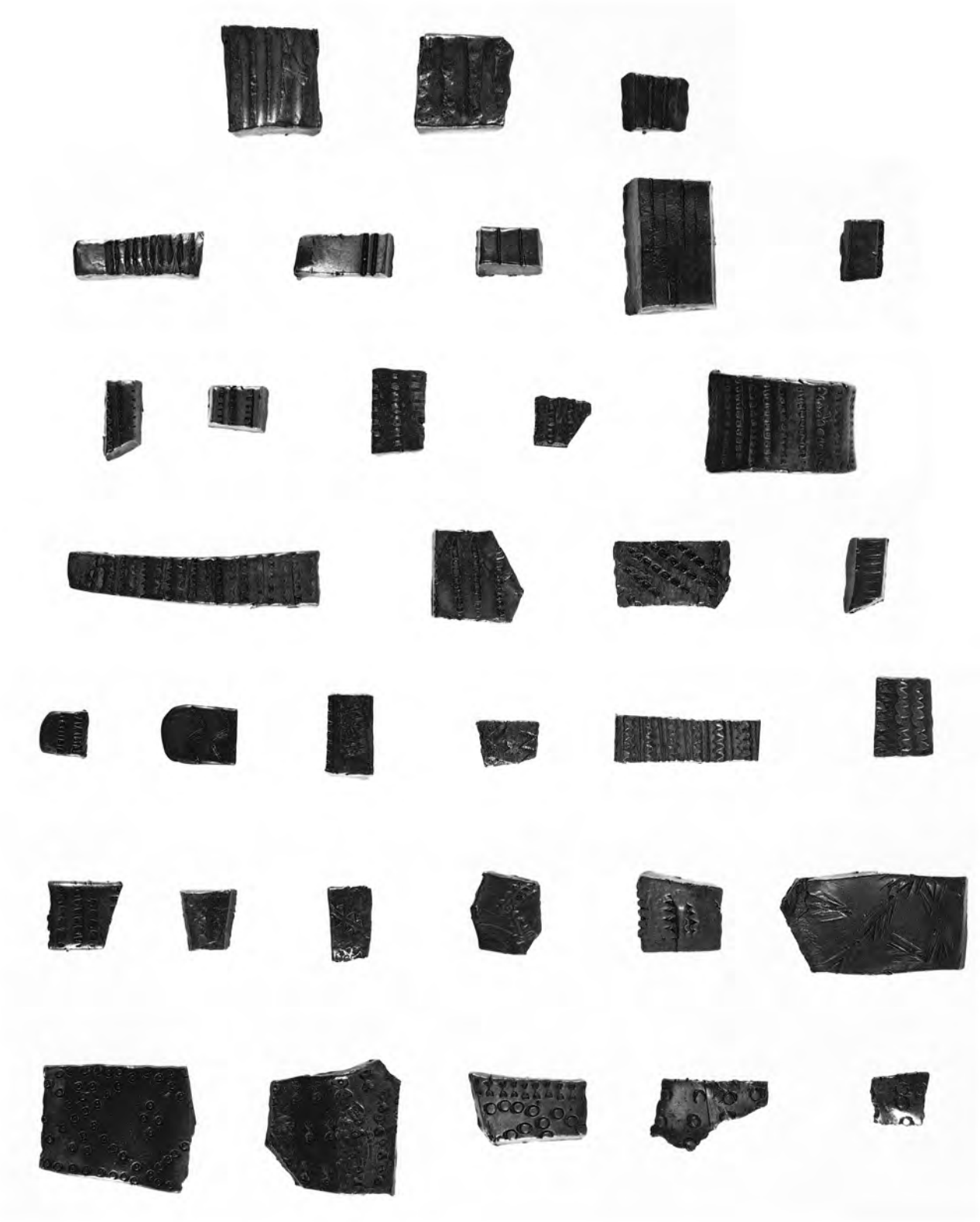


Plate 24 Cuerdale hoard: silver Hiberno-Scandinavian broad-band arm-ring fragments (**1:479-81; 1:482-4** and **454-5; 1:485-9; 1:490-3; 1:494-9; 1:500-5; 1:506-10**)

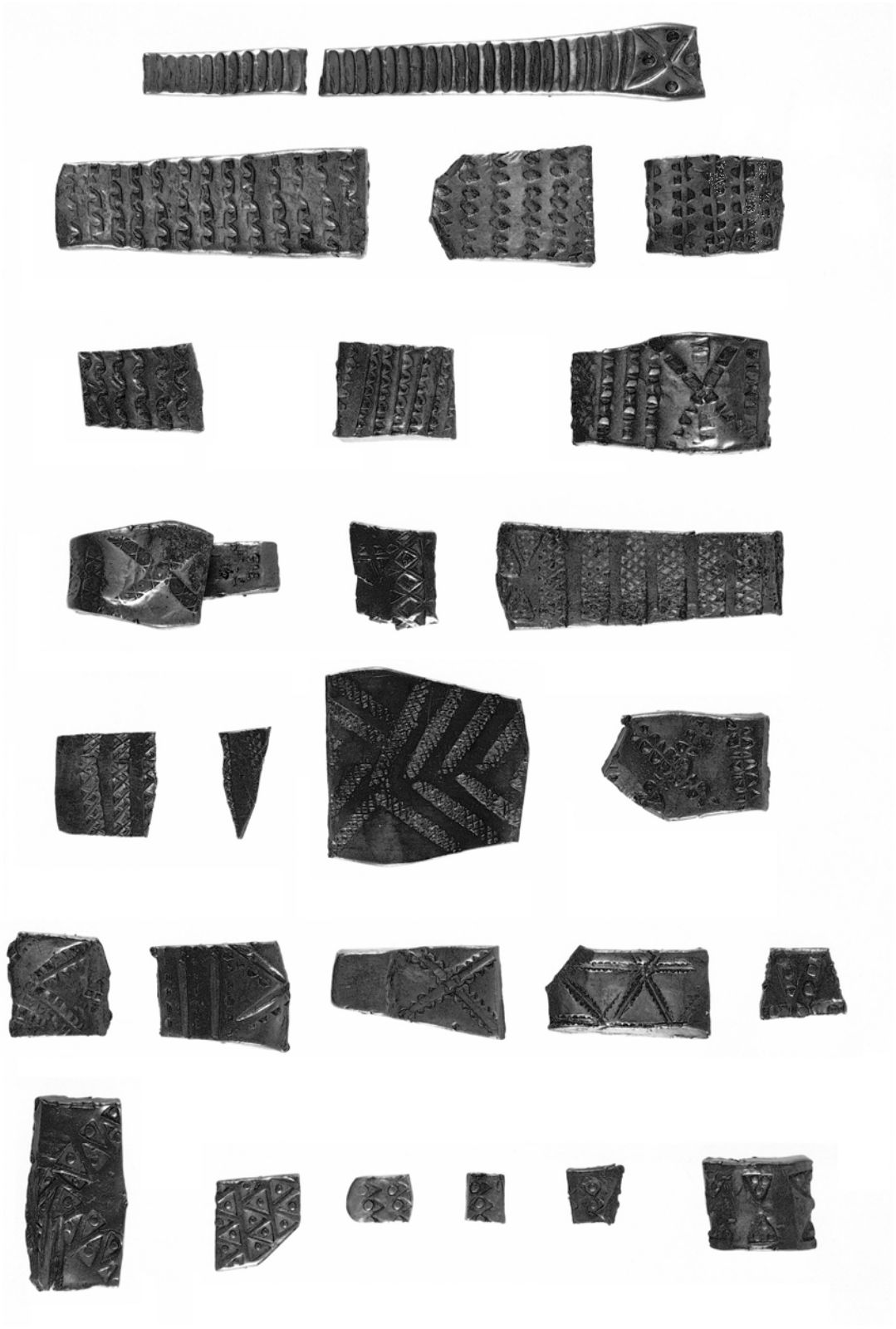


Plate 25 Cuerdale hoard: silver Hiberno-Scandinavian broad-band arm-ring fragments (**1:511-12; 1:513-15; 1:516-18; 1:519-21; 1:522-5; 1:526-30; 1:531-6**)

Plate 26 Cuerdale hoard: silver Hiberno-Scandinavian broad-band arm-ring fragments (**1:537-9; 1:540-3; 1:544-7; 1:548**)

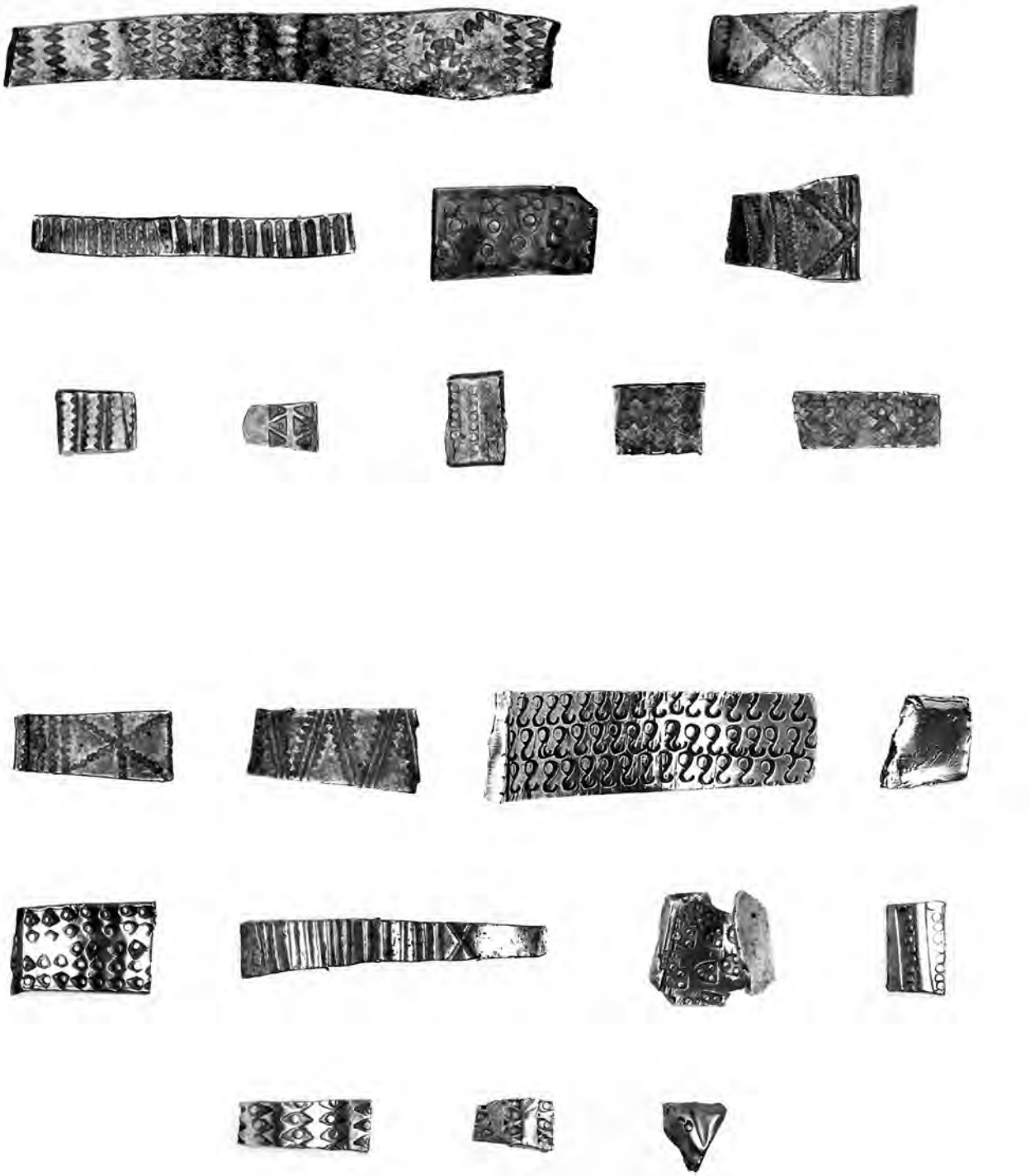


Plate 27 Cuerdale hoard: silver Hiberno-Scandinavian broad-band arm-ring fragments (**1:549-50; 551-3; 1:554-8; 1:559-62; 1:563-6; 1:567-9**)

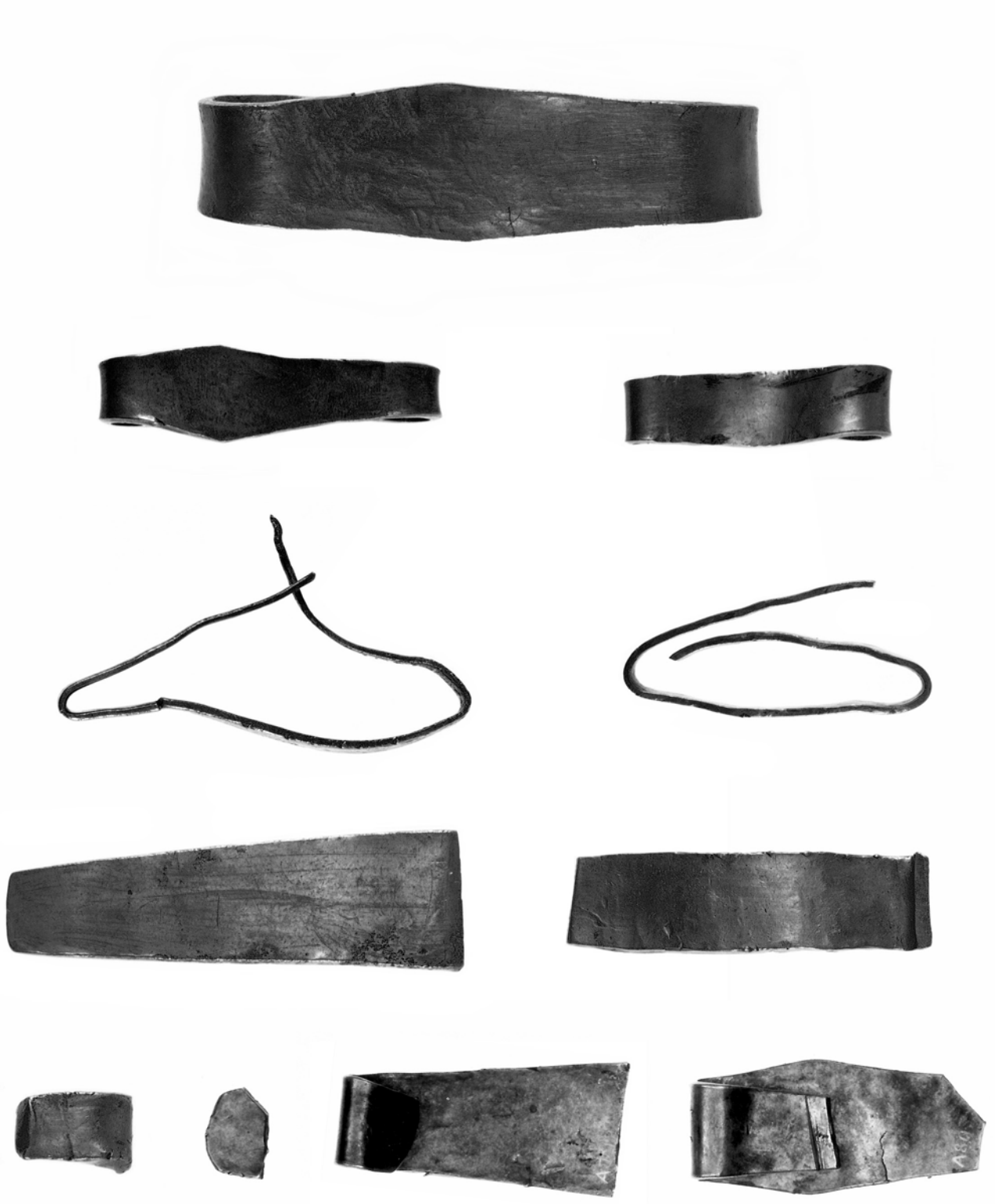


Plate 28 Cuerdale hoard: silver plain broad-band arm-rings and fragments (**1:570; 1:571-2; 1:573-4; 1:575-6; 1:655** and **660-2**)

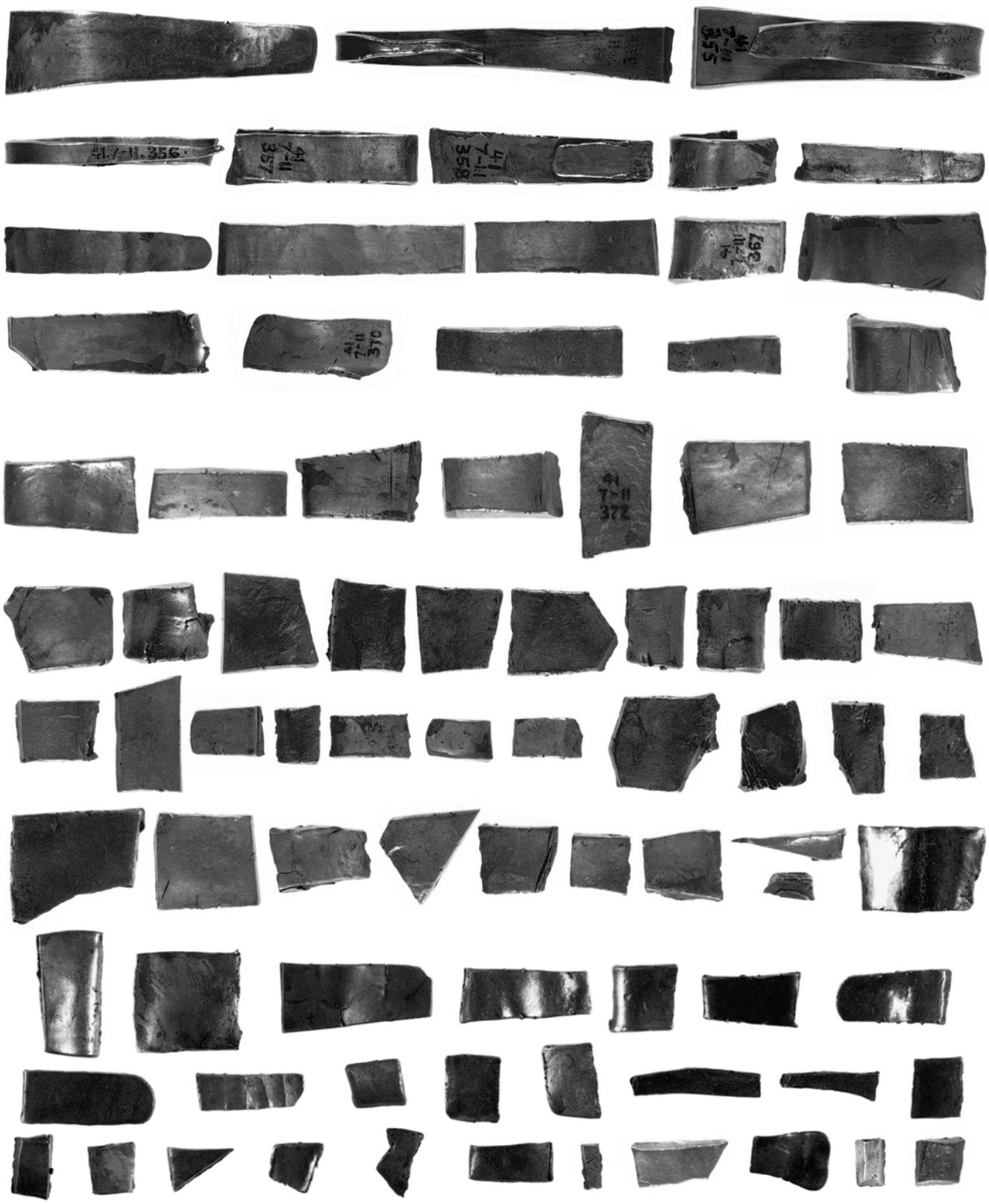


Plate 29 Cuerdale hoard: silver plain broad-band arm-ring fragments (**1:577-9; 1:580-4; 1:585-9; 1:590-5; 1:596-601; 1:602-11; 1:612-22; 1:623-32; 1:633-9; 1:640-7; 1:648-52, 654, 656-8, 663 and 1,126**)

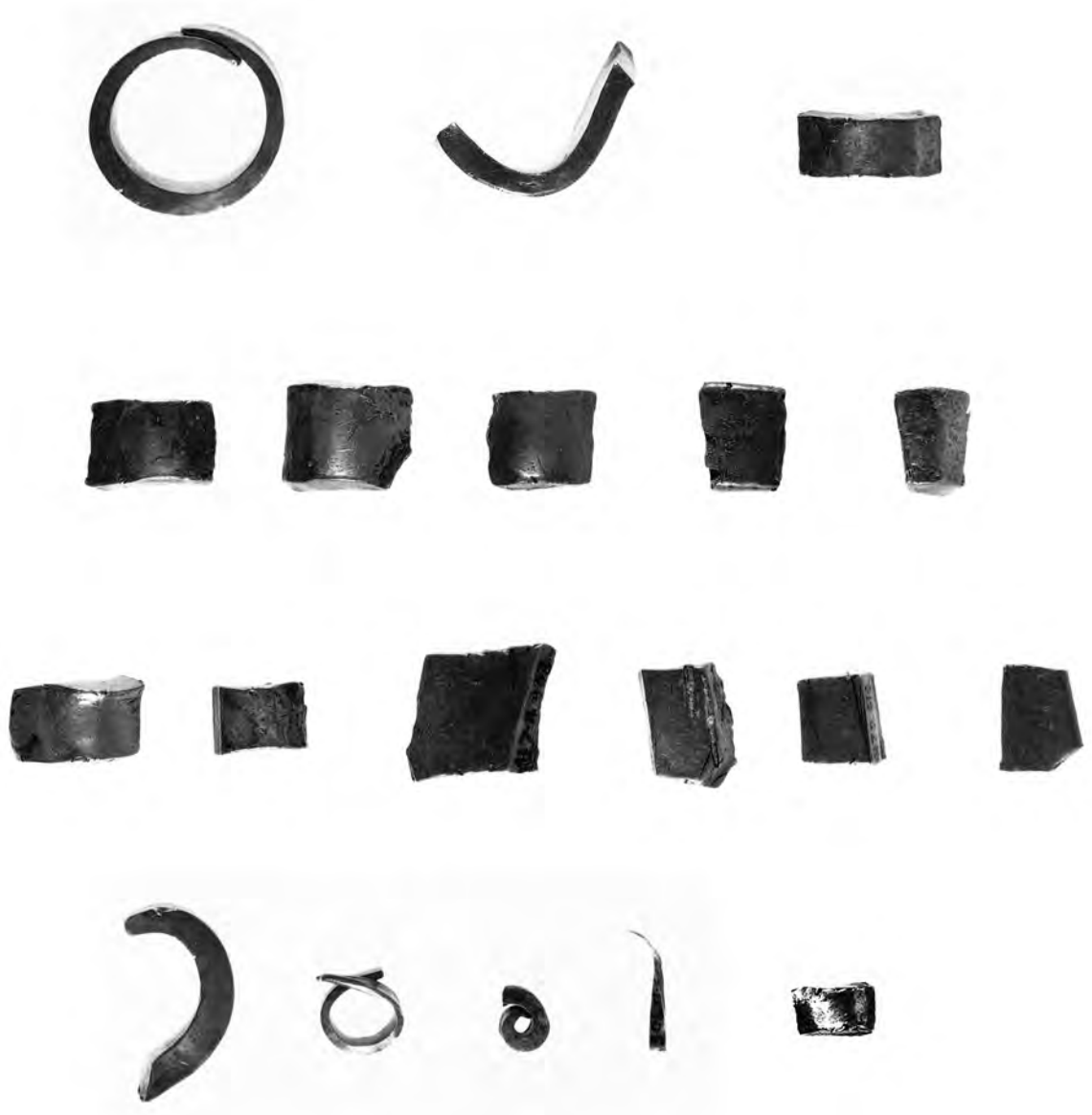


Plate 30 Cuerdale hoard: silver 'bullion-ring' and fragments (**1:664-6; 1:667-71; 1:672-7; 1:678-82**)

Plate 31 Cuerdale hoard: silver twisted-rod (double) neck-ring (**1:683**)

Plate 32 Cuerdale hoard: silver twisted-rod neck-ring (**1:684**)

Plate 33 Cuerdale hoard: twisted-rod neck-ring fragments (**1:685; 1:686; 1:687-9**)

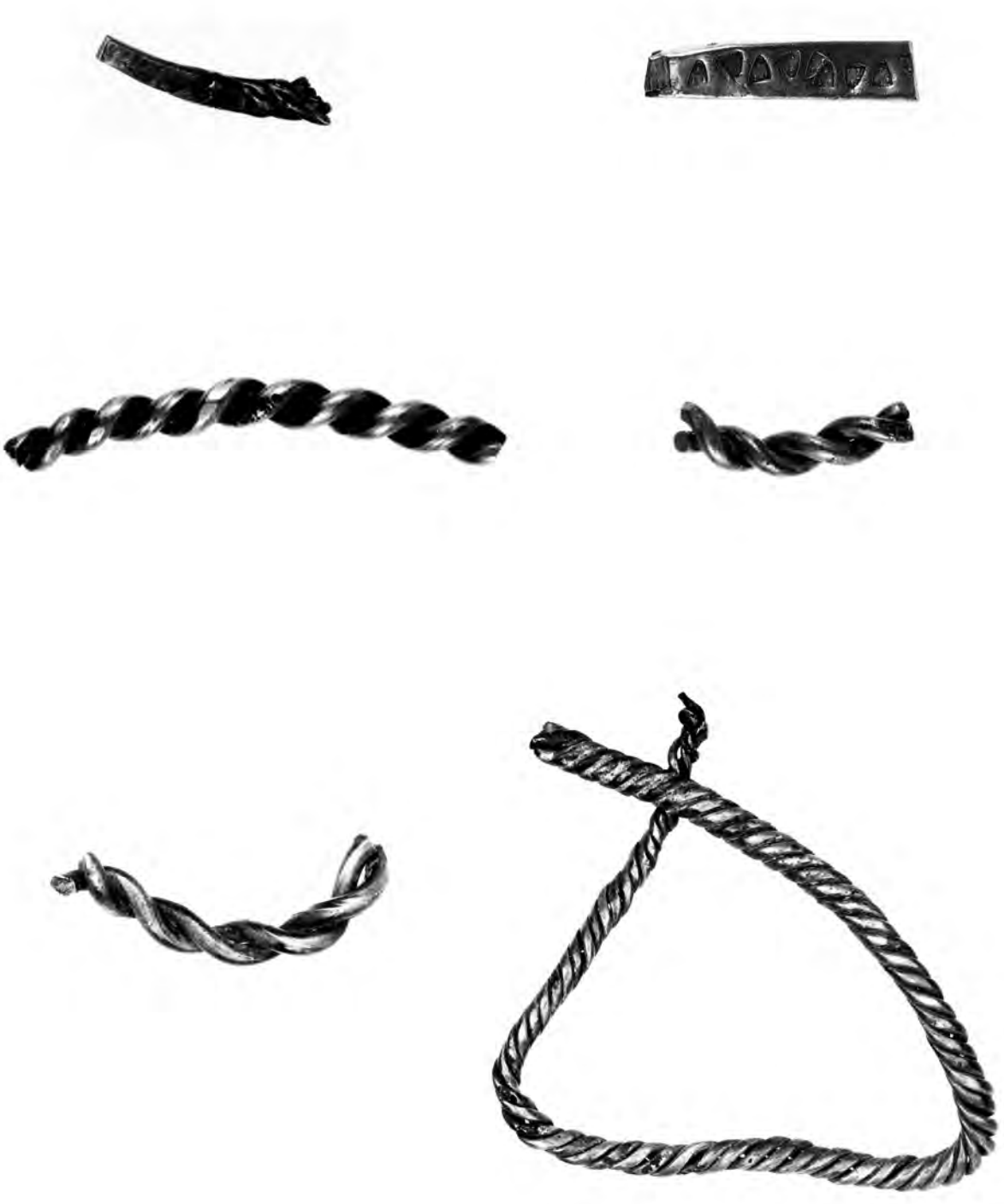


Plate 34 Cuerdale hoard: silver neck-ring fragments (**1:690-1; 1:692-3; 1:694-5**)

Plate 35 Cuerdale hoard: silver plaited- and twisted-rod arm-rings, and fragments (**1:696; 1:697; 1:700-1; 1:702; 1:698-9**)

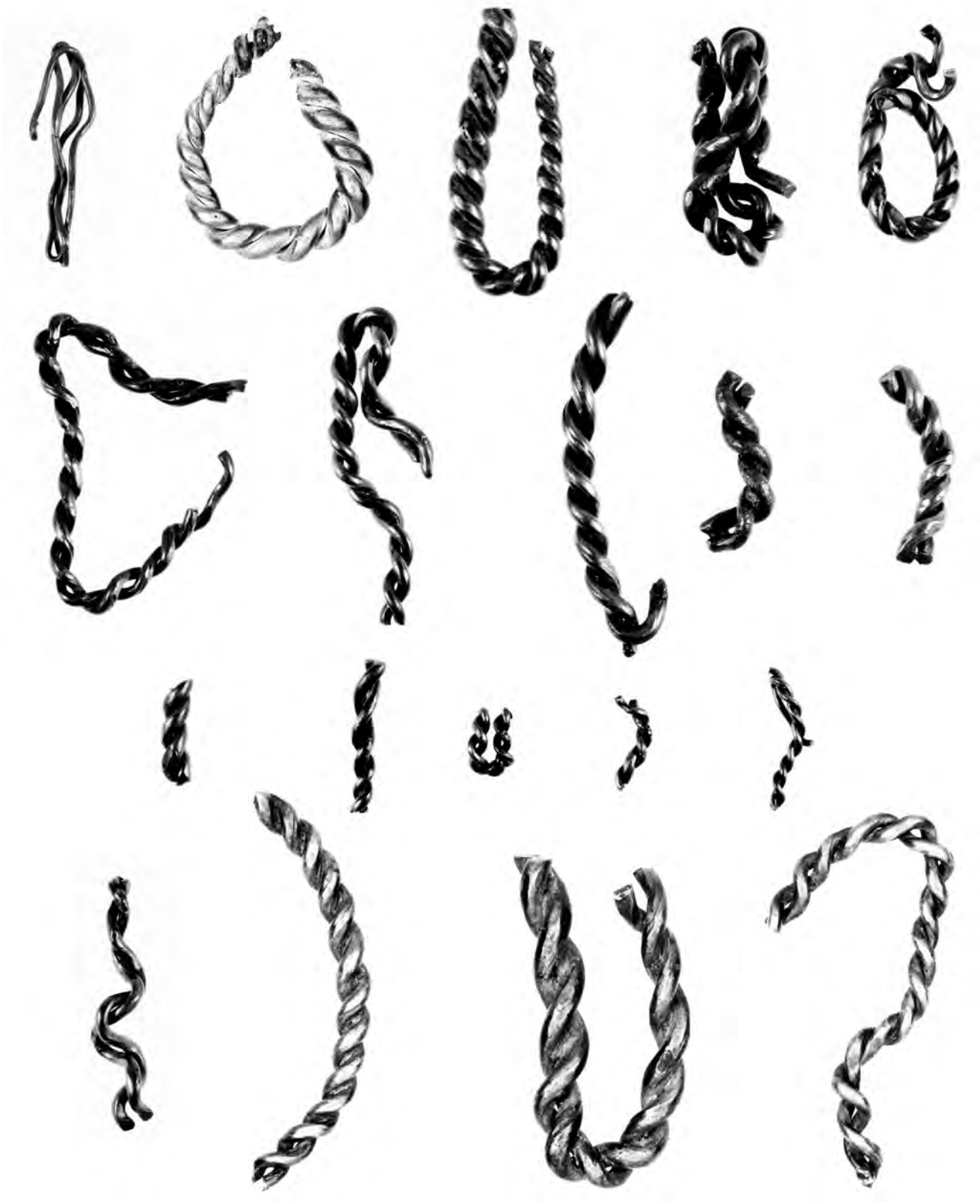


Plate 36 Cuerdale hoard: silver twisted-rod arm-ring fragments (**1:703-7; 1:708-12; 1:713-17; 1:718-21**)

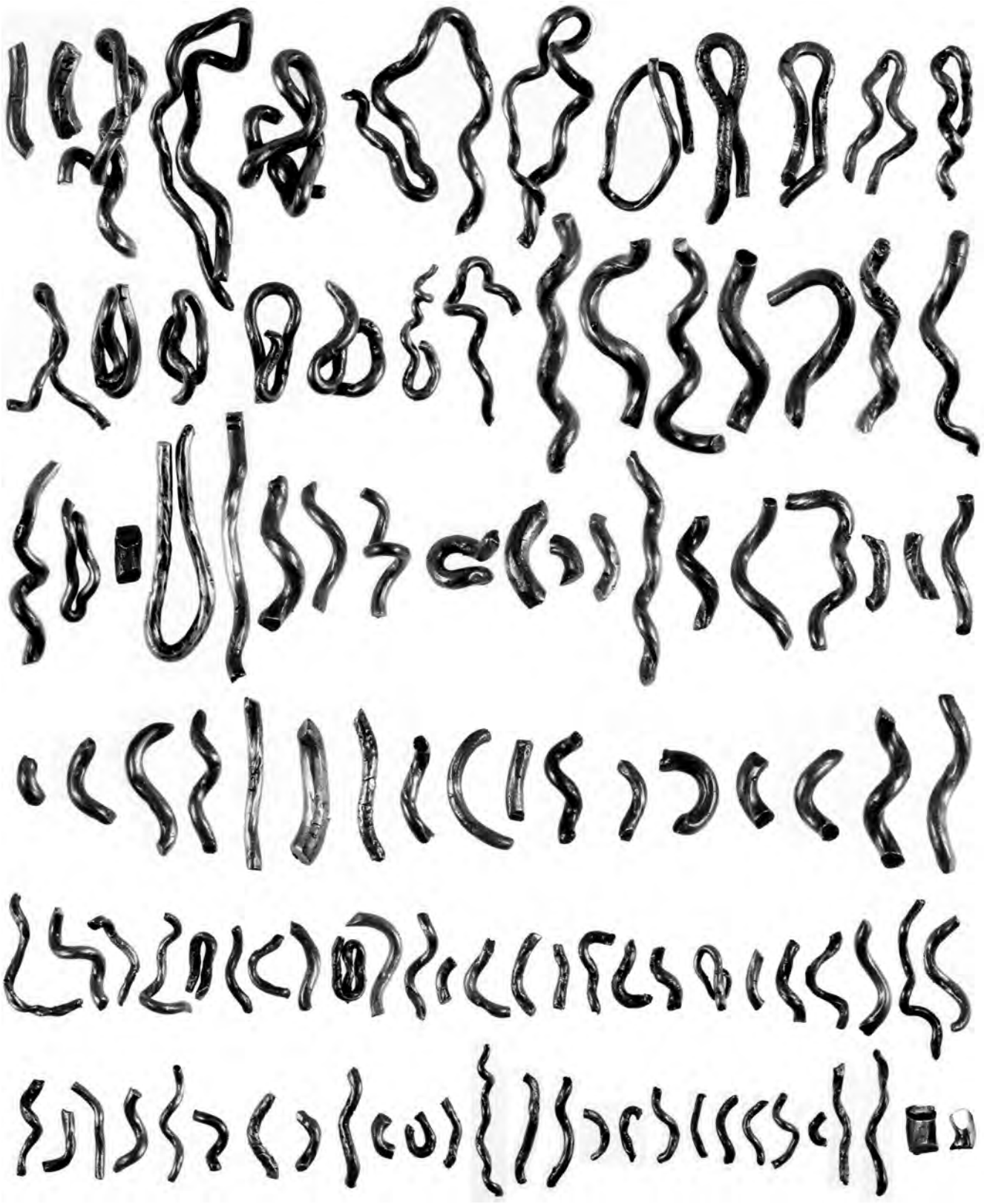


Plate 37 Cuerdale hoard: miscellaneous silver twisted-rod fragments (**1:722-33; 1:734-47; 1:748-66; 1:767-83; 1:784-808; 1:809-35**)

Plate 38 Cuerdale hoard: silver circular rod arm-rings and fragments (**1:836; 1:837; 1:838-9; 1:840; 1:841-4; 1:845-7; 1:873, 848-50** and **852-3; 1:851**)

Plate 39 Cuerdale hoard: silver circular rod arm-ring fragments (**1:854-9; 1:860-9; 1:870-2; 1:874-5; 1:876-82**)

Plate 40 Cuerdale hoard: silver polygonal (lozenge) rod arm-rings (**1:883; 1:884; 1:885-6; 1:887-9**)

Plate 41 Cuerdale hoard: silver polygonal (lozenge) rod arm-rings and terminal fragments (**1:890-1; 1:892; 1:893-4; 1:895-9**)

Plate 42 Cuerdale hoard: silver polygonal rod arm-ring fragments (**1:900-10; 1:911-21; 1:922-9; 1:930-48; 1:949-58** and **965-72**)

Plate 43 Cuerdale hoard: silver polygonal rod arm-ring fragments (**1:959; 1:960; 1:961-2; 1:963-4**), and coiled arm-ring fragments (**1:973-4; 1:975-7**)

Plate 44 Cuerdale hoard: silver finger-rings and fragments (**1:978-82; 1:983-5; 1:986-7; 1:988-90; 1:991-4**)

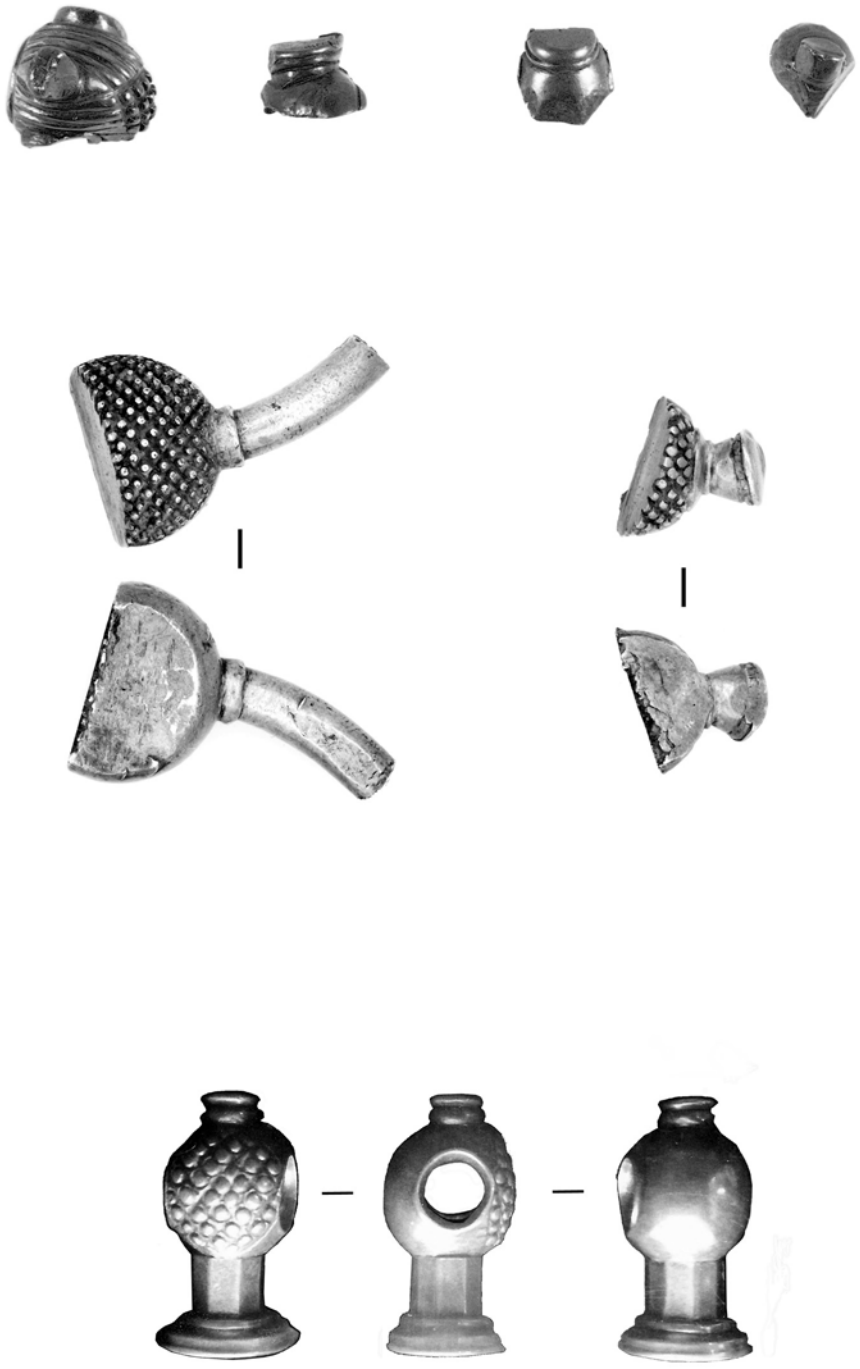


Plate 45 Cuerdale hoard: silver 'ball-type' brooch fragments (**1:995-8; 1:999-1,000**), including the Cuerdale 'stamp' (**1:1,001**)

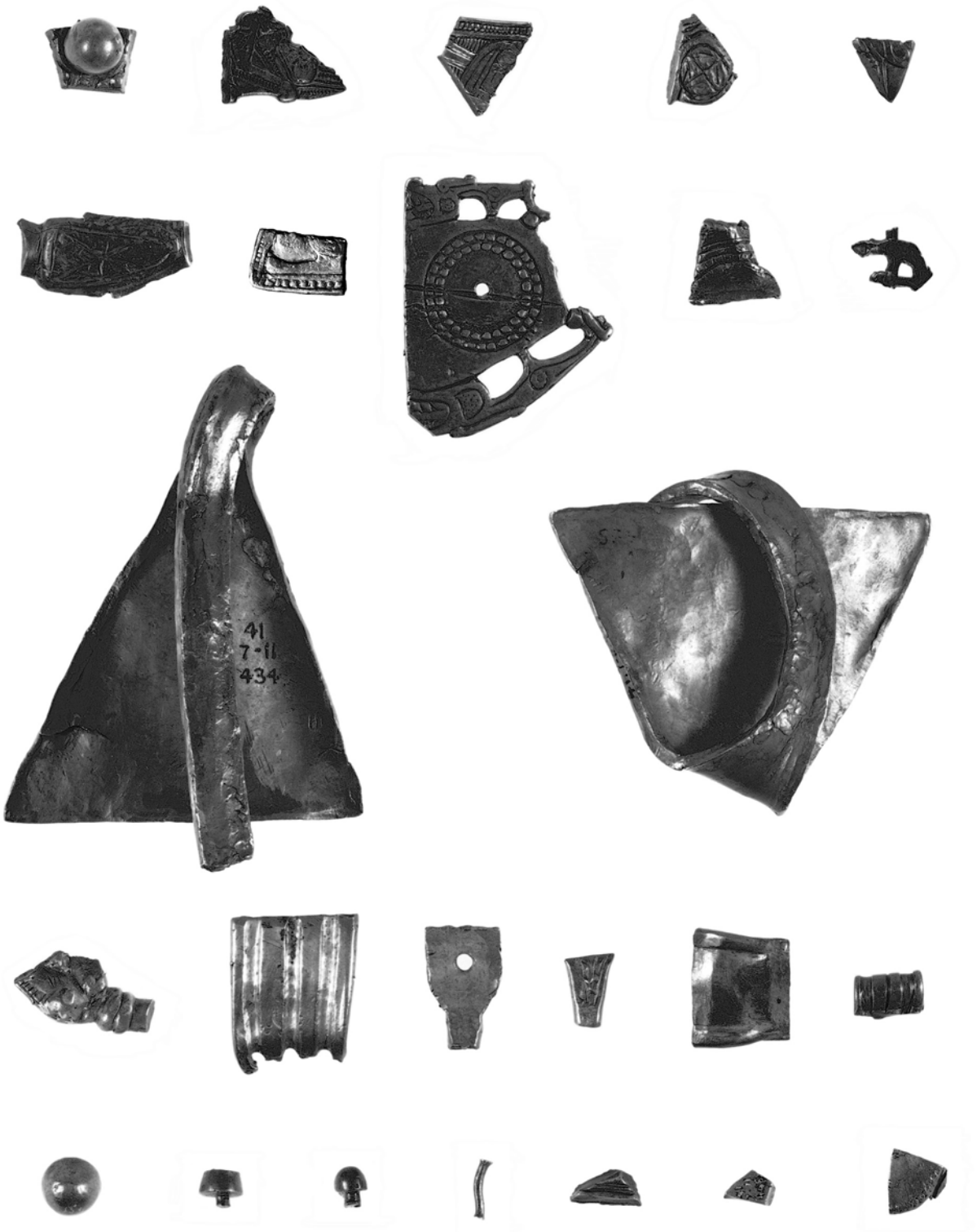


Plate 46 Cuerdale hoard: miscellaneous silver brooch and pin fragments (**1:1,002-6; 1:1,009-12** and **1,014; 1:1,017-18; 1:1,019** and **1,021-5; 1:1,034-7** and **1,050-2**)

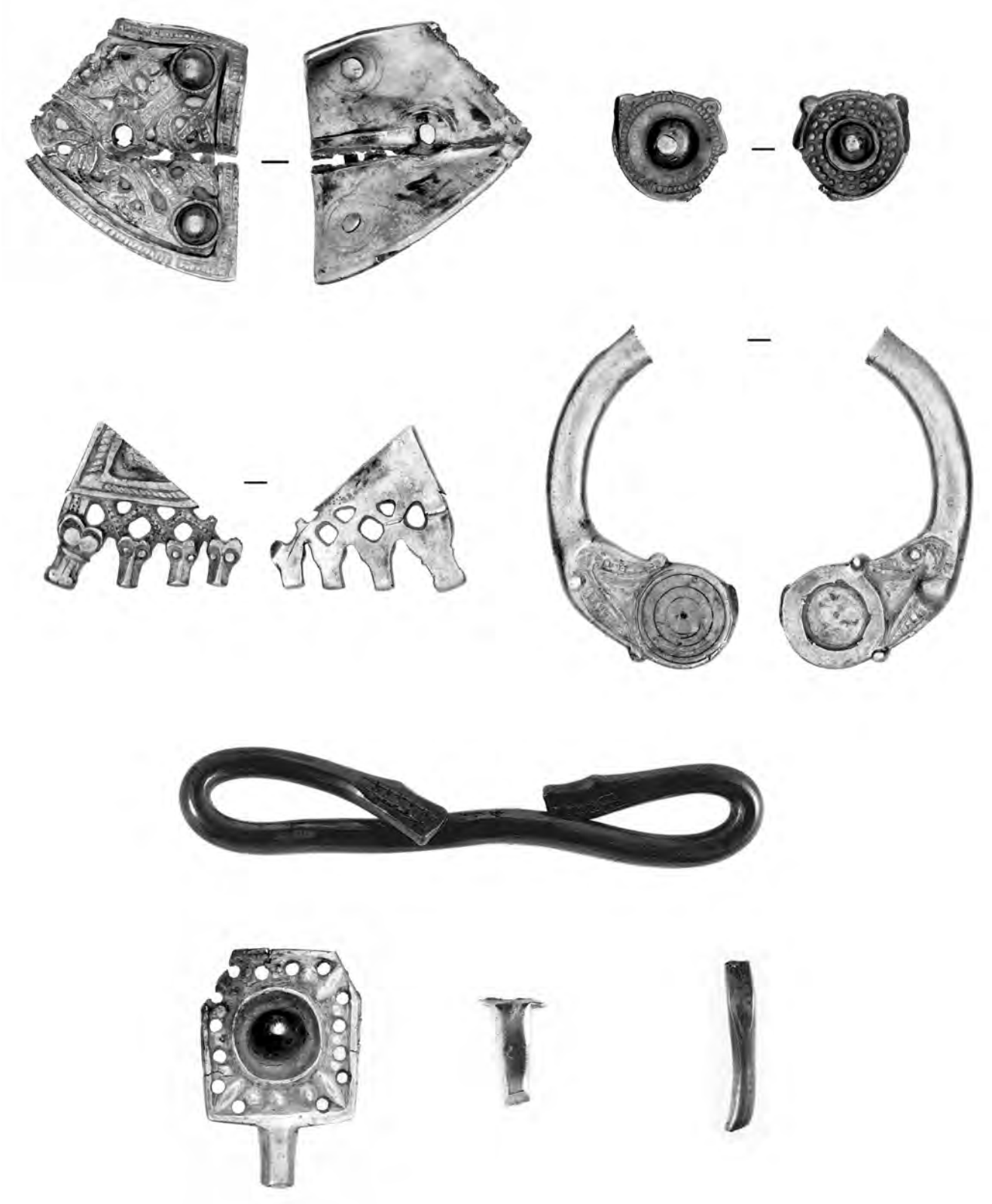


Plate 47 Cuerdale hoard: miscellaneous silver brooch and pin fragments (**1:1,007-8** and **1,013; 1:1,015** and **1,020; 1:1016; 1:1,026-8**)

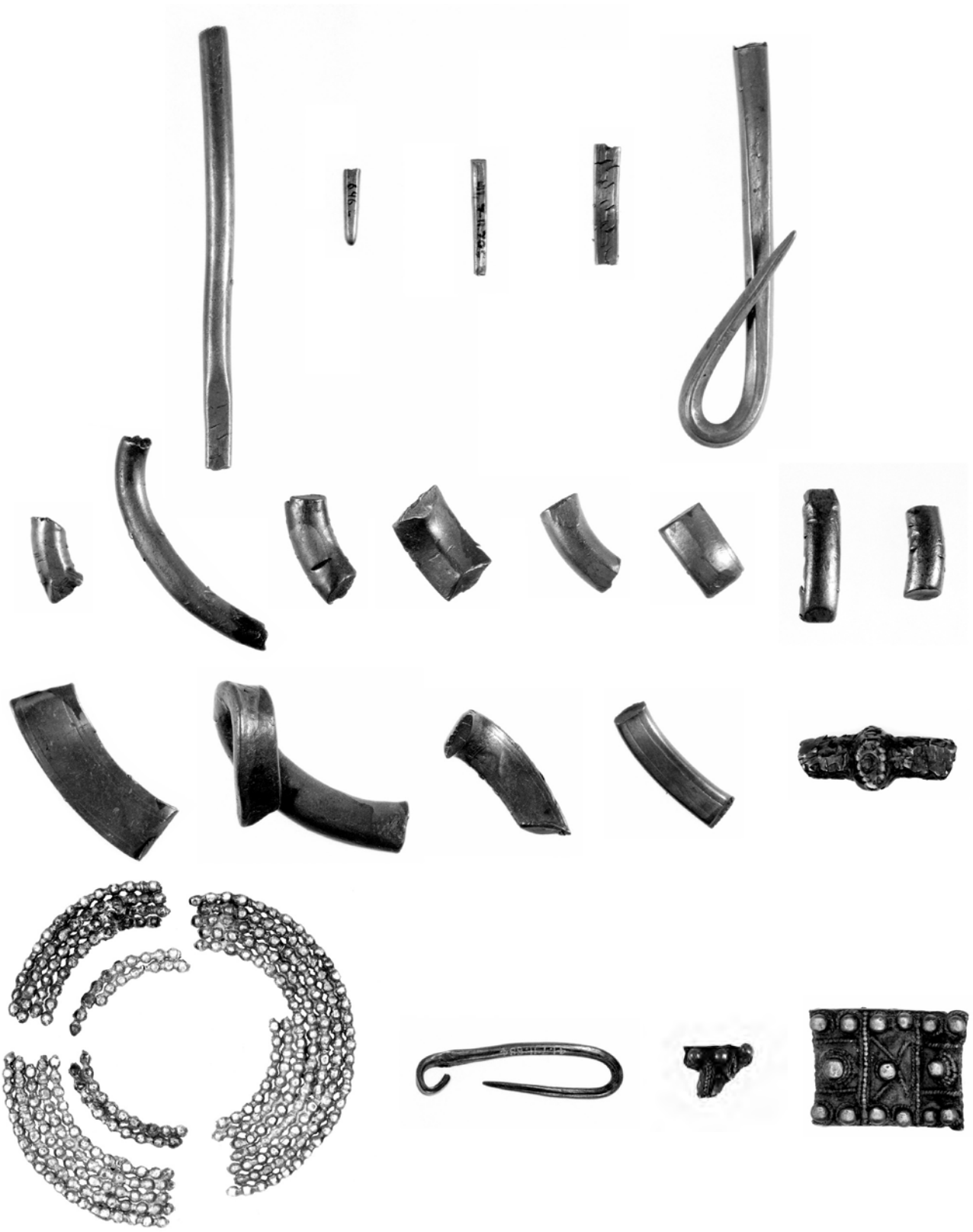


Plate 48 Cuerdale hoard: miscellaneous silver brooch and pin fragments (**1:1,029-33; 1:1,038-45; 1:1,046-9** and **1,053**), with Anglo-Saxon and Carolingian brooch fragments (**1:1,054-7**)

Plate 49 Cuerdale hoard: silver trefoil-headed pin fragments (**1:1,058-61**), and buckle (**1:1,062**)

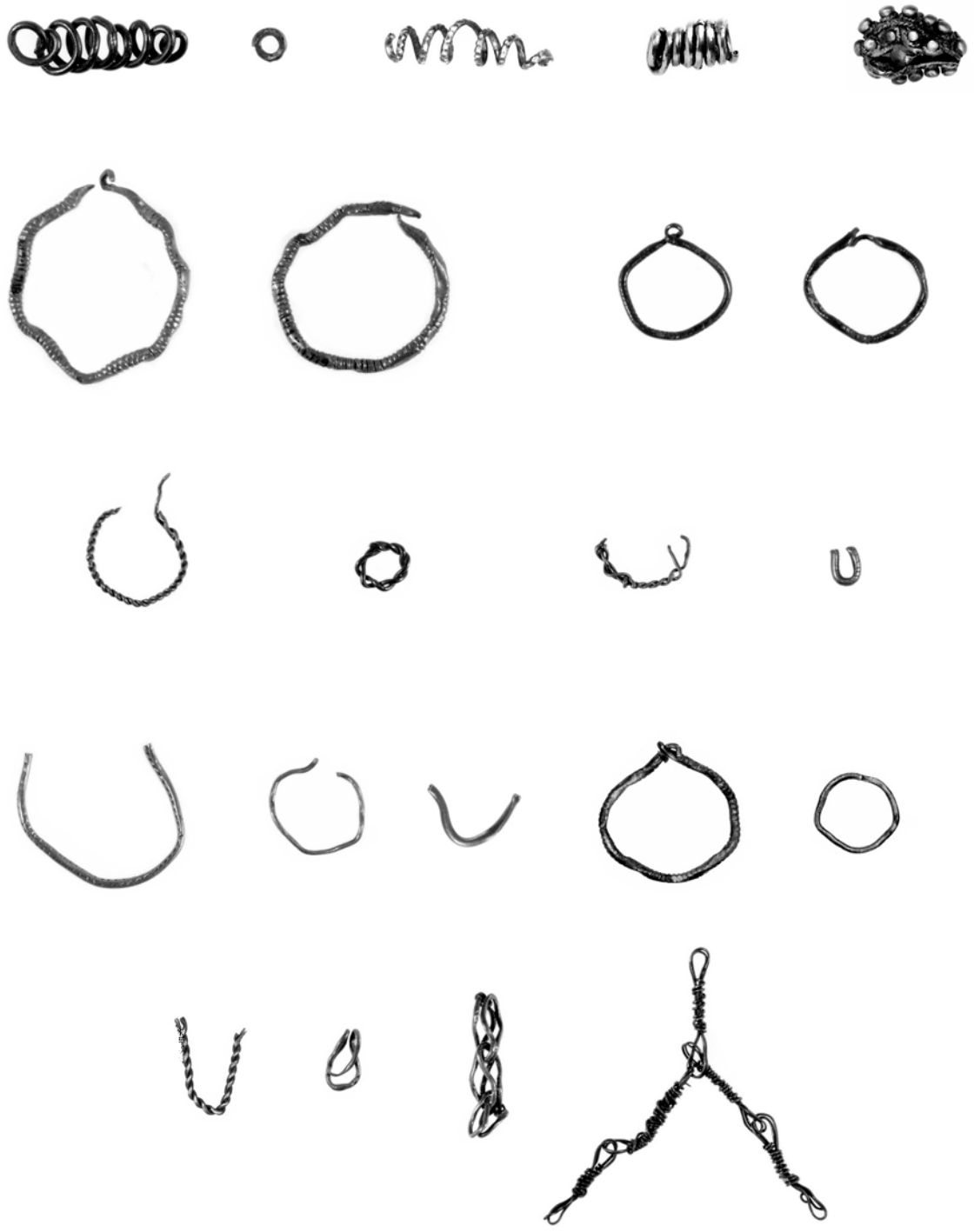


Plate 50 Cuerdale hoard: silver beads (**1:1,063-7**), with suspension/attachment rings (**1:1,068-71; 1:1,072** and **1,074-6; 1:1,077-81; 1:1,082**) and chain fragments (**1:1,083-5**)

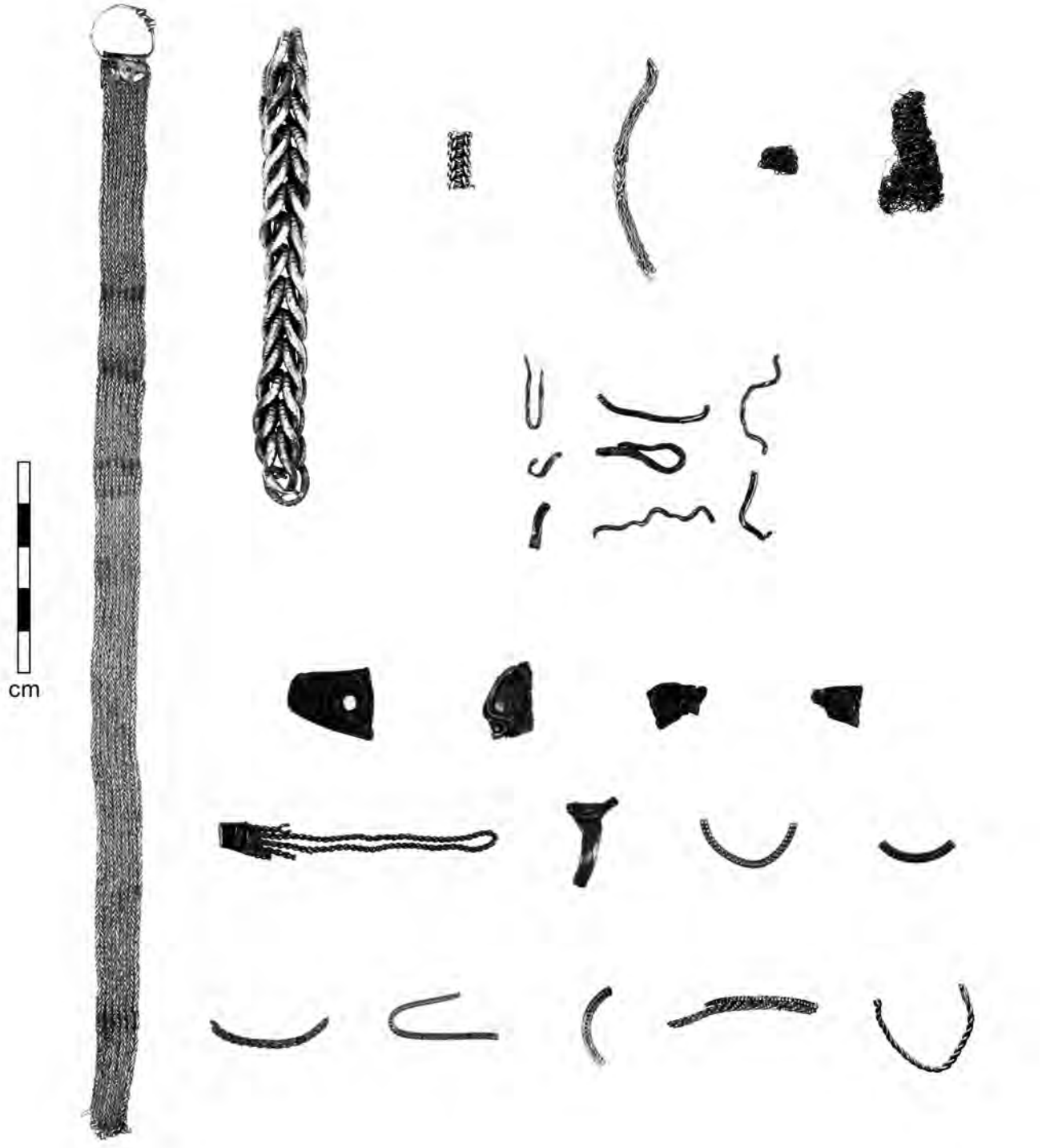
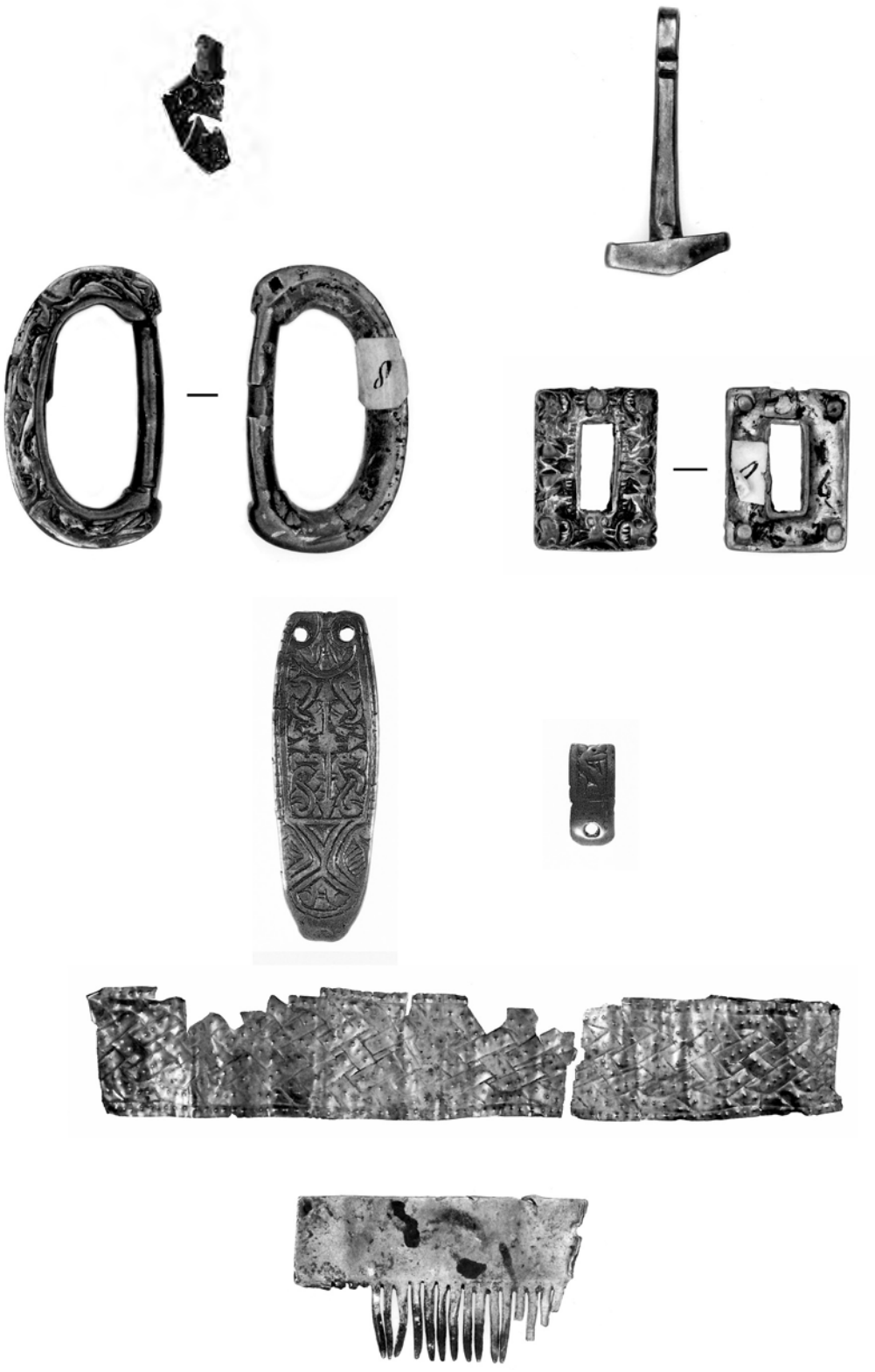


Plate 51 Cuerdale hoard: silver chain fragments (**1:1,086-9**), with wire knot and hank (**1:1,090-1**), eight wire fragments (**1:1,092-9**), and miscellaneous filigree/beaded/twisted-wire fragments (**1:1,100-2** and **1,004; 1,105-8; 1,109-13**)



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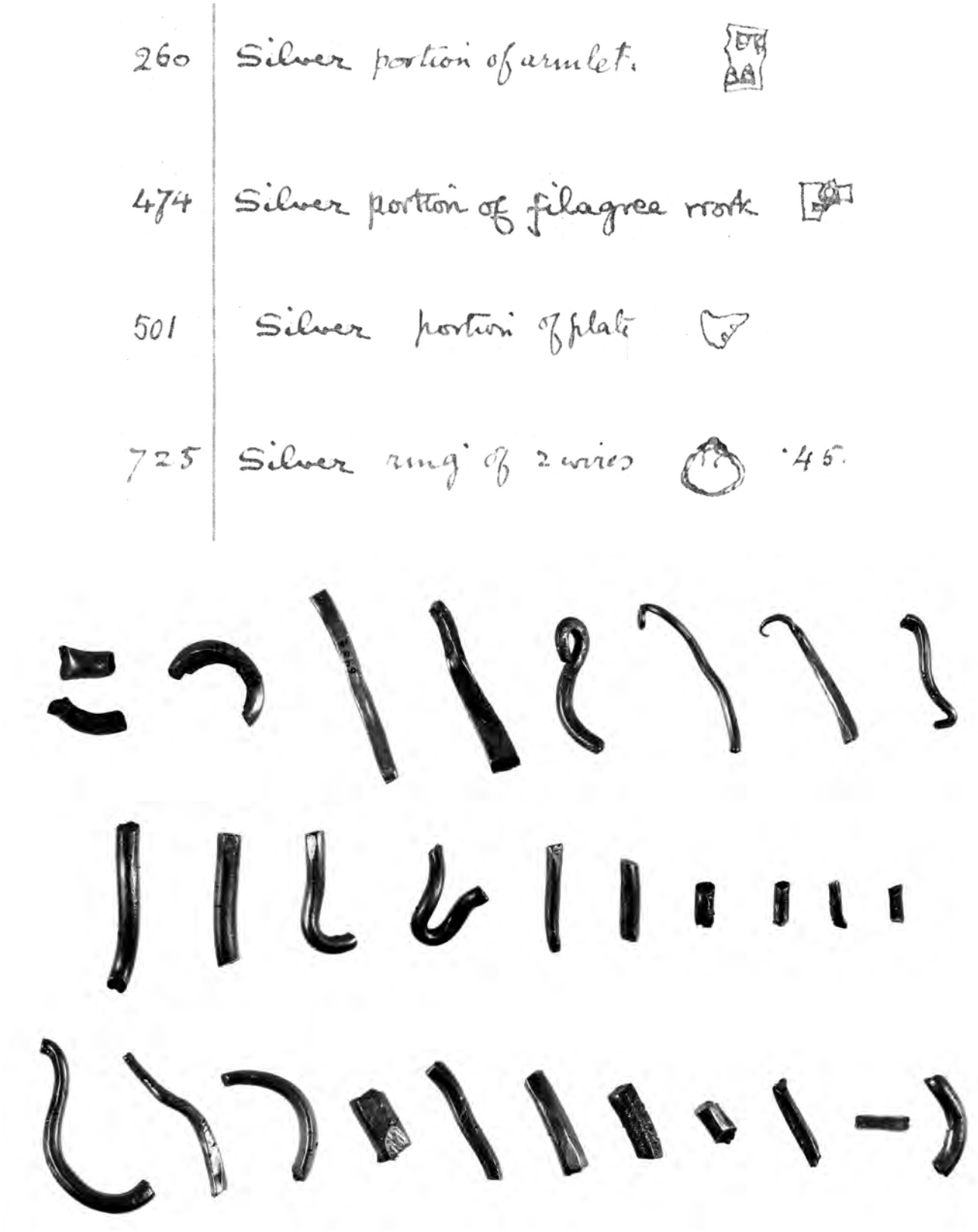
260 Silver portion of armlet.
474 Silver portion of filagree work
501 Silver portion of plate
725 Silver ring of 2 wires .45.

Plate 53 Cuerdale hoard: four missing silver objects, enlarged from the BM Register (*c.* 1/1): decorated band arm-ring fragment (260 = **1:433**); filigree decorated fragment (474 = **1:1,103**); plain band arm-ring fragment (501 = **1:653**); and twisted wire ring (725 = **1:1,073**); with three miscellaneous fragments (**1:1,122-4**) and 'Addenda' of plain silver ring fragments (**1:1,128-9**, **1,127** and **1,130-2**; **1:1,133-42**; **1:1,143-53**) , including those of two (?)finger-rings (**1:1,152-3**)

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Plate 55 Flusco Pike (no. 1): details of the ornament on the pin-head and terminal of 'thistle-brooch' (**2:1**)

Plate 56 Flusco Pike (no. 1): silver 'thistle-brooch' (**2:2**), pin-length 51.5cm

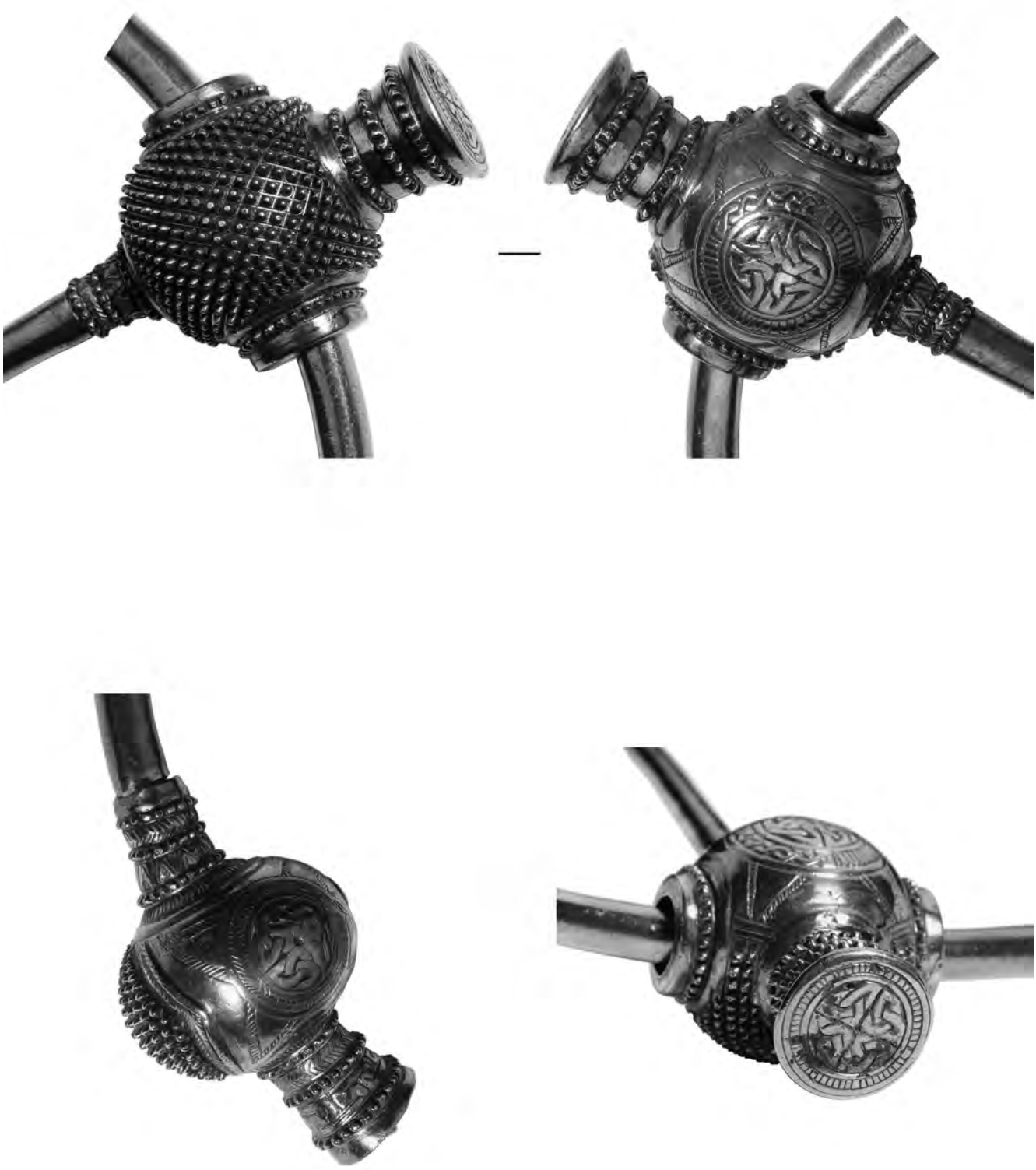
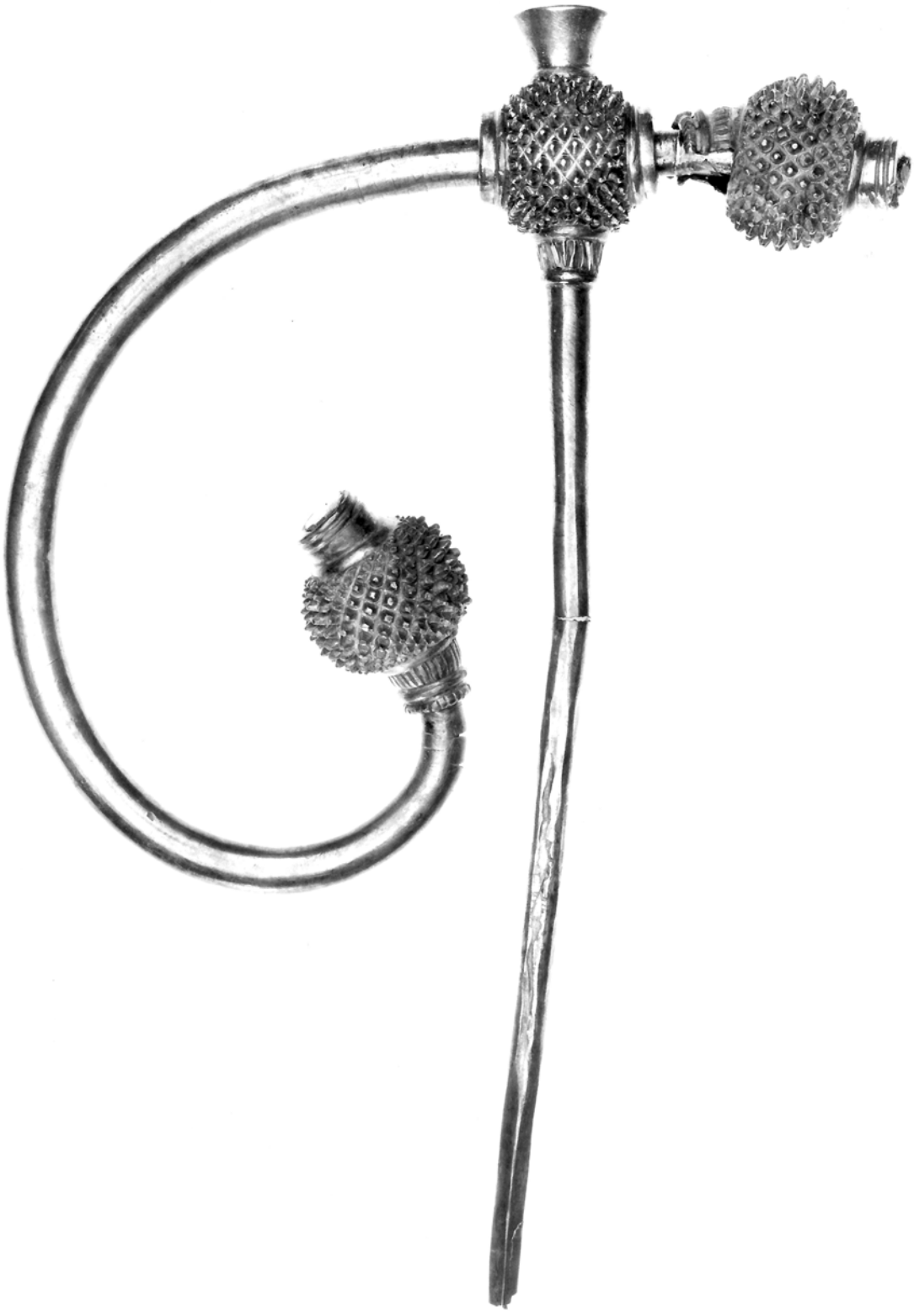


Plate 57 Flusco Pike (no. 1): details of the ornament on the pin-head and terminal of 'thistle-brooch' (**2:2**)



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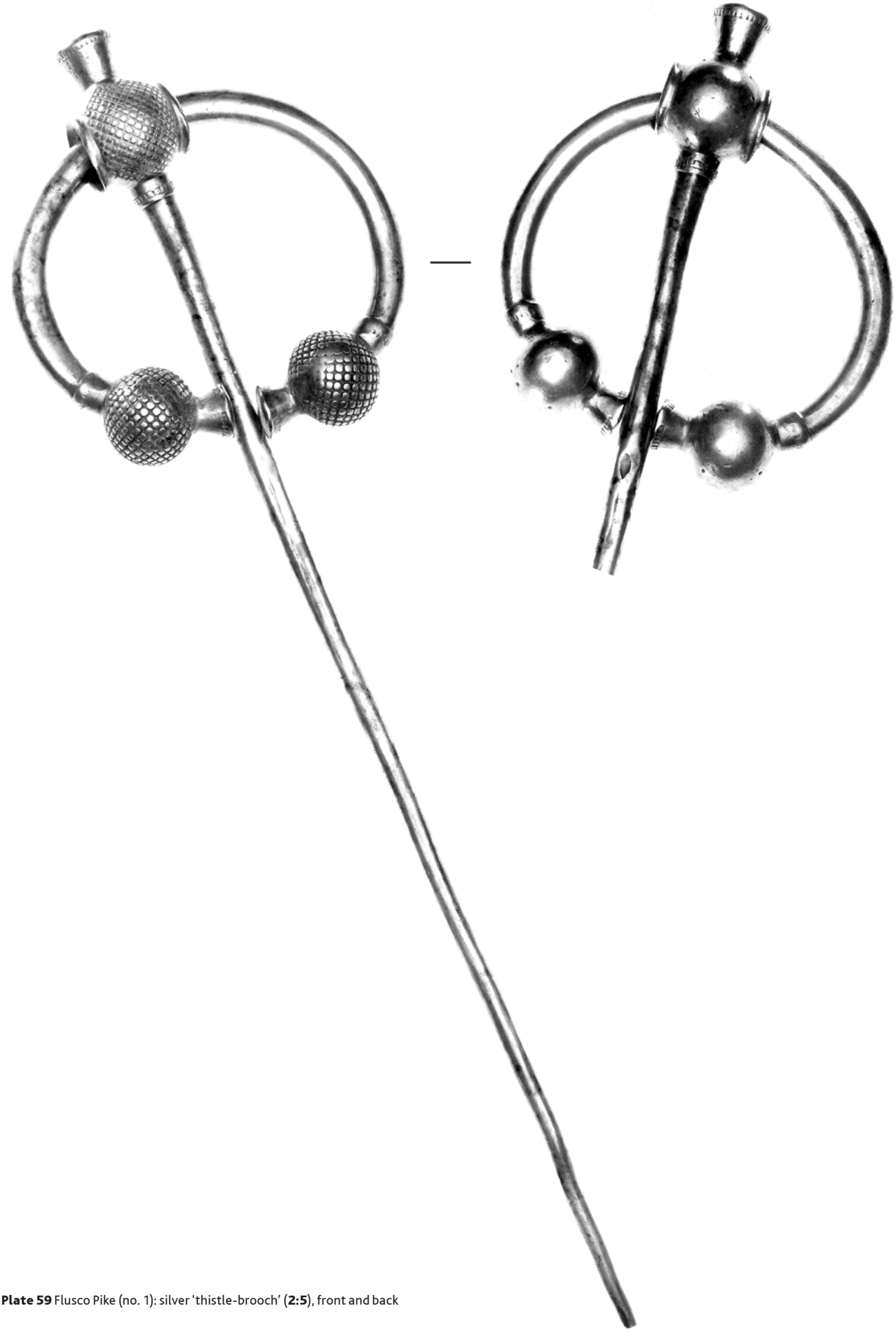

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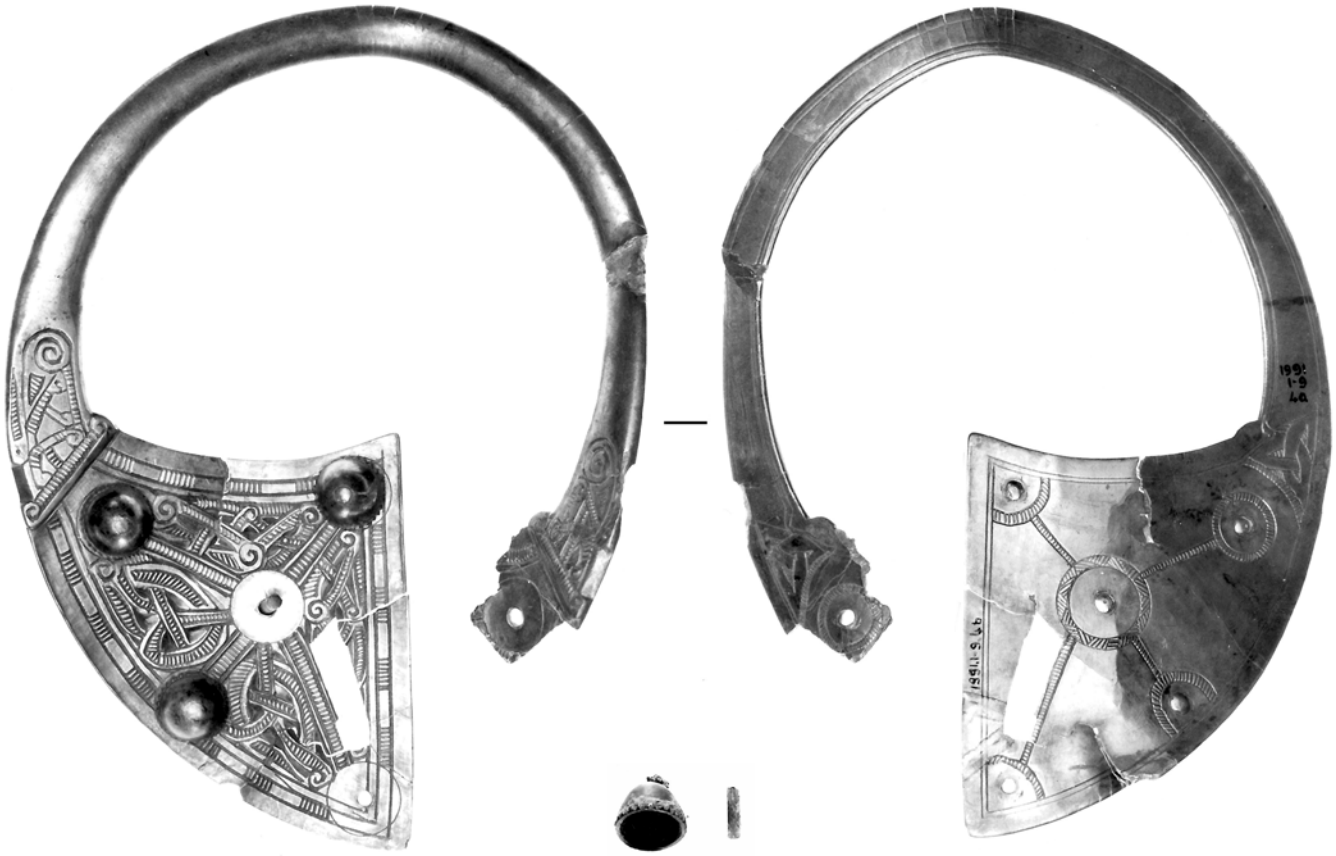
Plate60 Flusco Pike (no. 1): silver bossed brooch (**2:4**), front, with detached and damaged pin-head boss (**2:9**)

Plate 61 Flusco Pike (no. 1): silver bossed brooch (**2:4**), back



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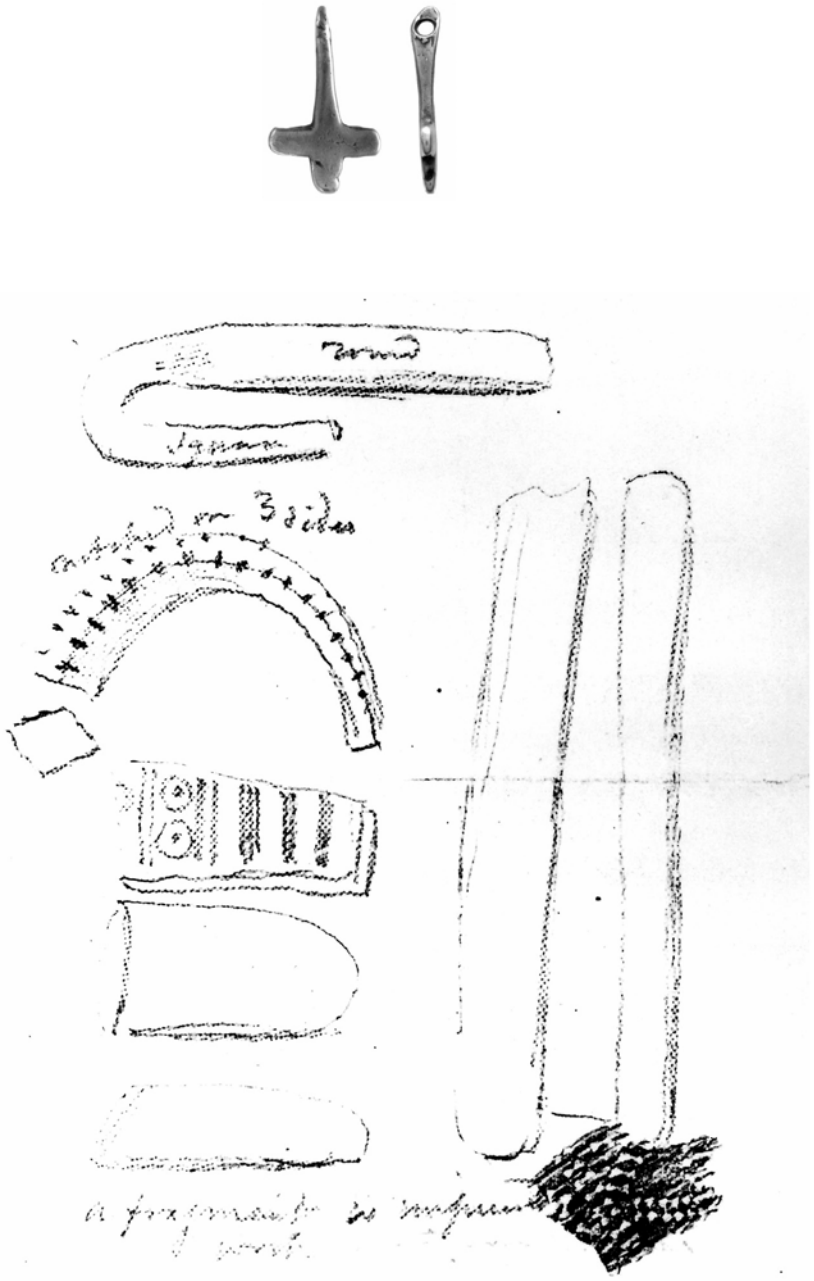

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4:4

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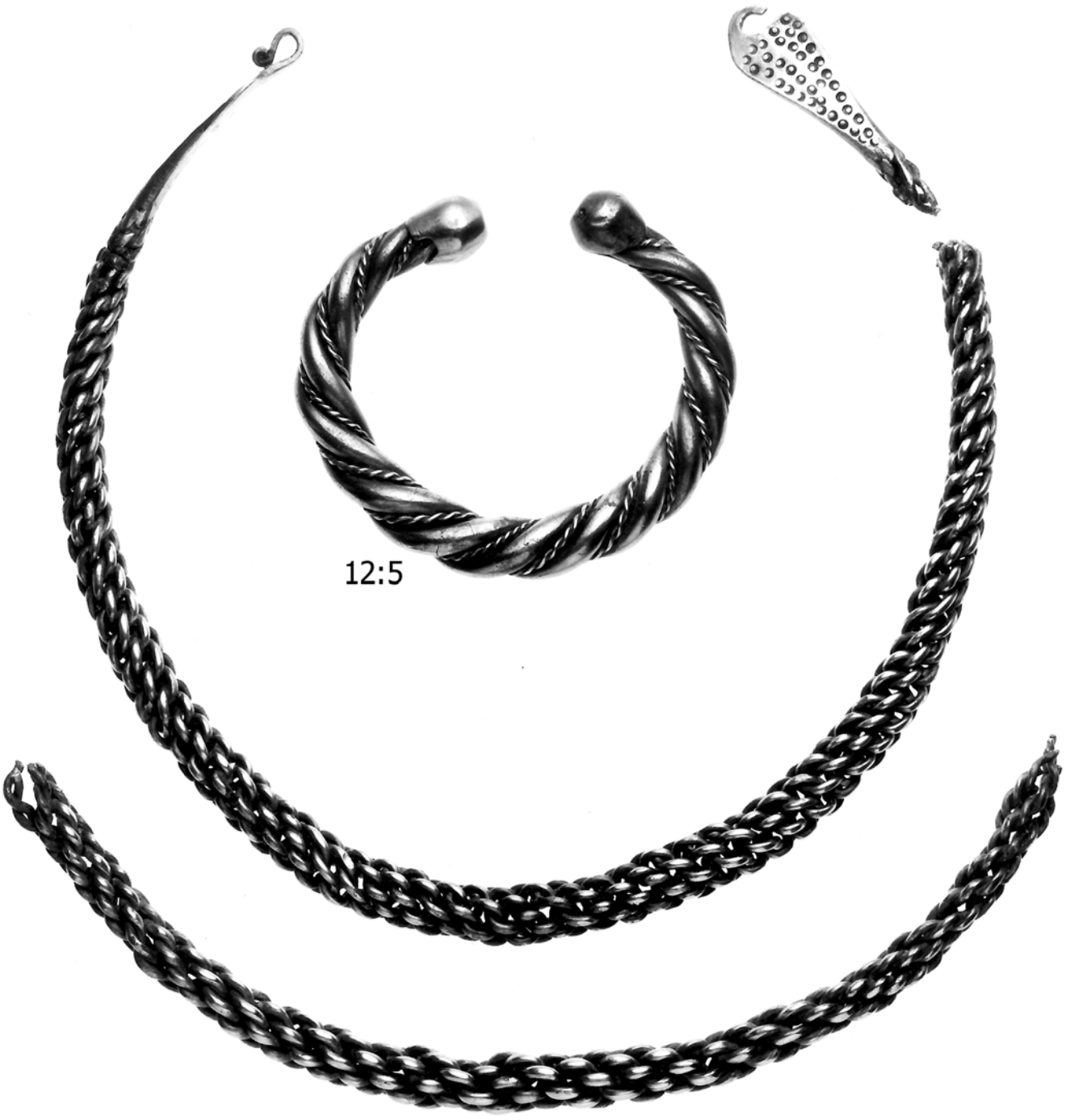

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Plate 72 Ballaquayle (Douglas) hoard, Isle of Man: gold twisted-rod arm-ring (**13:1**), and silver twisted-rod neck-ring fragment (**13:2**)

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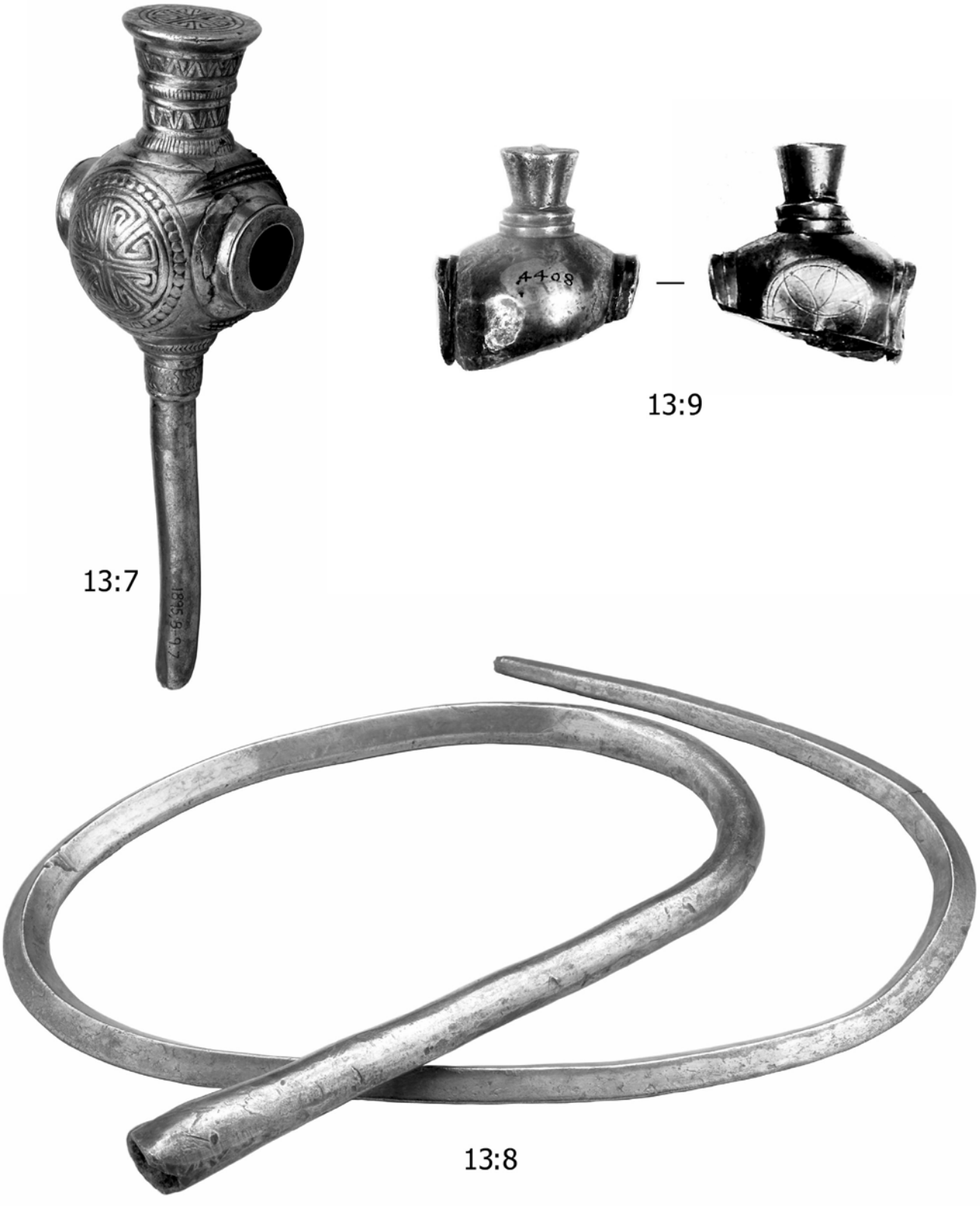

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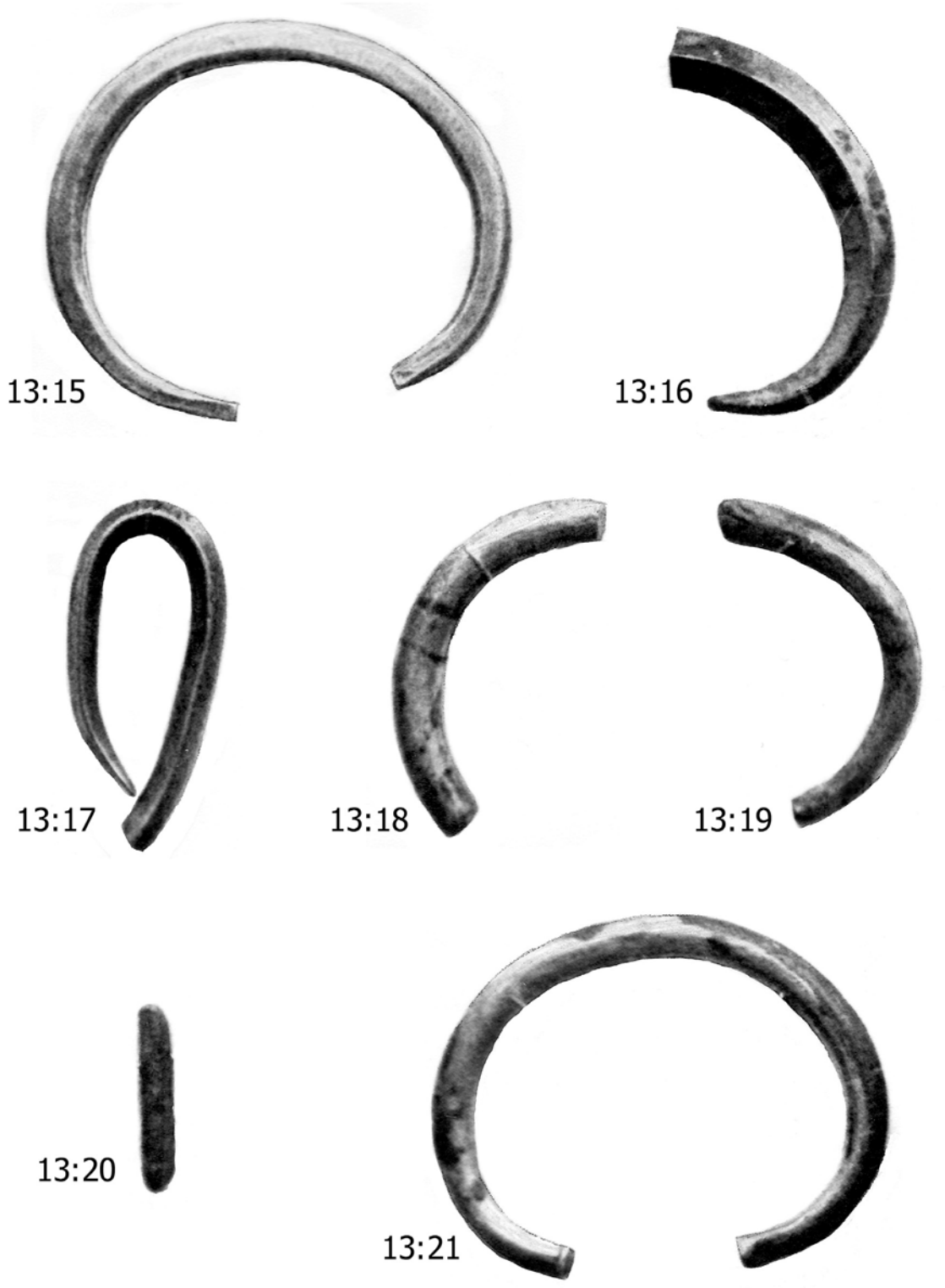

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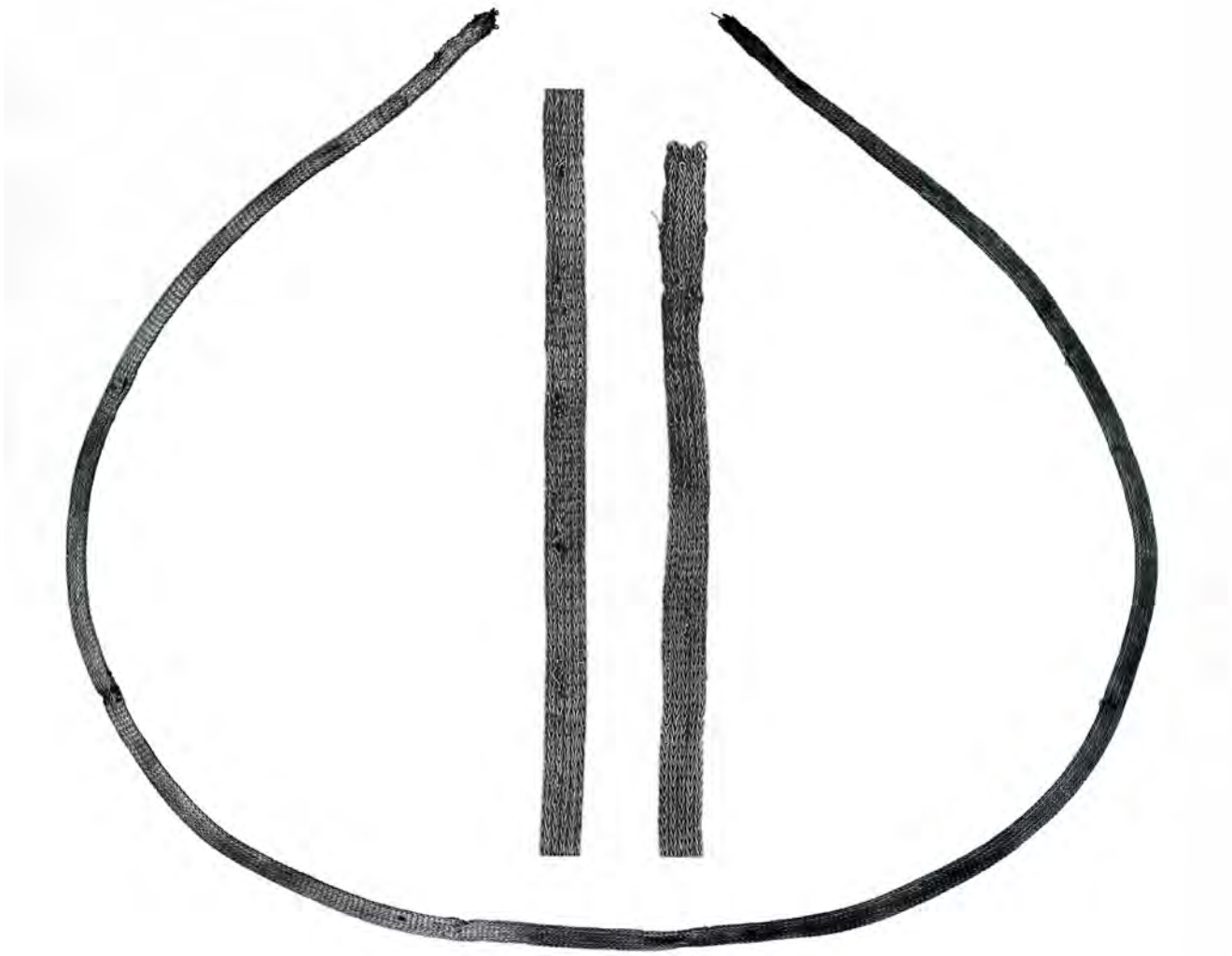

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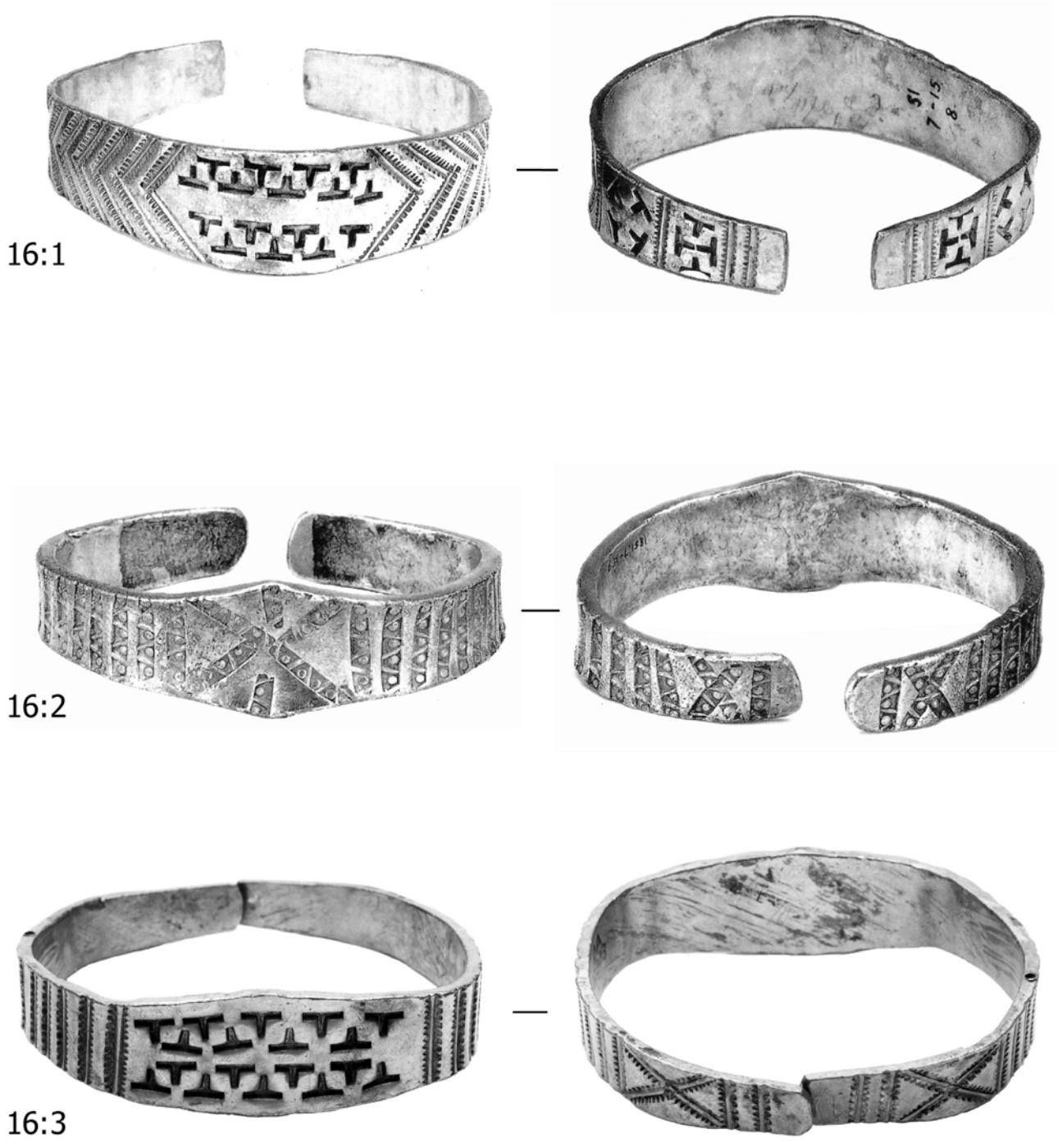

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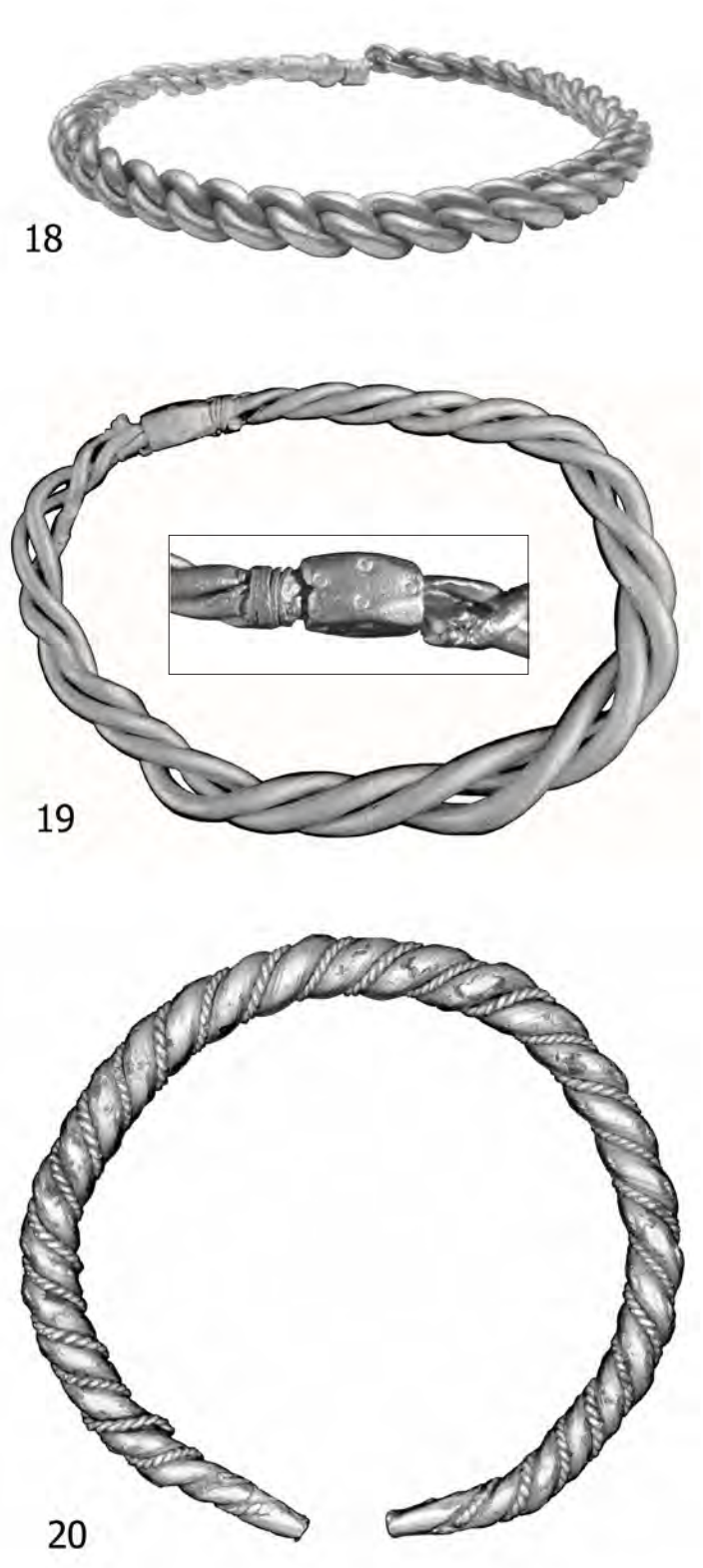

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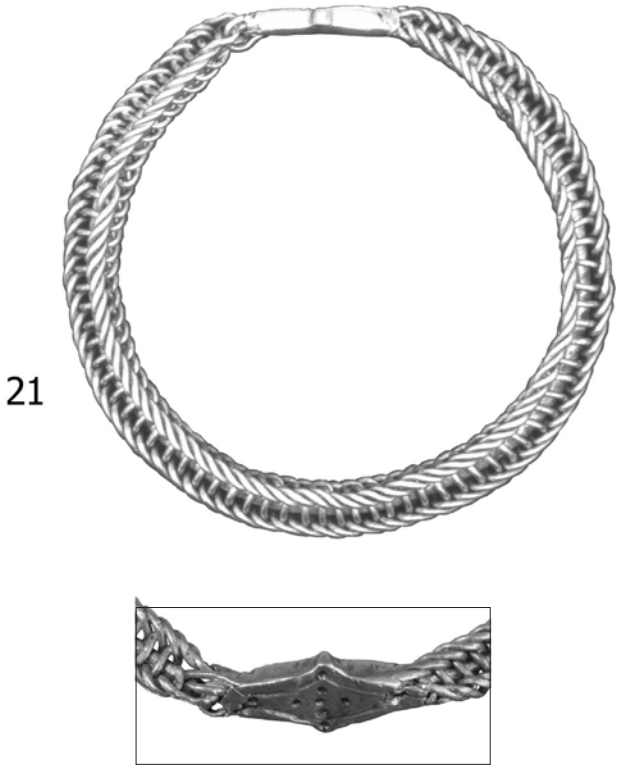

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